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ABSTRACT

The Home Learning Center (HLC) Project, a combination of research and demonstration containing phases of basic research, material development and field testing of materials and delivery system, began in 1968 as a longitudinal investigation of a home-oriented approach to intervention in the lives of very young children which might enhance their ability to function in life. This project was the third in a series of longitudinal studies using the same population. In all three studies, the essential ingredient was weekly visits by trained paraprofessional parent educators (drawn from the community) who provided the parent with ideas and activities which could be used at home. The HLC program continued intervention through the child's third year (adding a weekly group play session) and collected data on the effects of this type of intervention on children and parents three years after termination of intervention. A total of 204 experimental and control families participated in this final phase. At age 6, all children were measured by the Stanford-Binet, Caldwell Preschool Inventory, and Task Oriented Behavior Scale. Mothers' attitudes and behavior were measured by their responses on two interviews schedules. Results are given; and discussions on the long-time effects of intervention and the efficacy of the HLC model are presented. (ED)

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A HOME LEARNING CENTER APPROACH TO EARLY STIMULATION

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A HOME LEARNING CENTER APPROACH TO EARLY STIMULATION PROJECT

Institute for Development of Human Resources

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ERRATA

Page 3 - line 10 - No particular theory. ADD - was used in the development of these activities.

Page 55 - * should be + on direction of correlation for MAI

Page 56 - Should be: *p = .05.
**p = .01.

1. Problem

The purpose of the Home Learning Center Project was to continue the investigation of a home-oriented approach into intervention in the lives of very young children in a way which might enhance their ability to function in life. The project, proposed in June, 1968, was developed to demonstrate an approach which might either be used as a part of the operations of Parent-Child centers, or serve as a possible model for family day care. More specifically, the goals of the project were to attempt to simultaneously raise the chances that a young child will reach a higher level of intellectual and personal development, and assist the significant adults in his life to gain in competence and feelings of self-worth. This project was a combination of research and demonstration, containing phases of basic research, material development, and field testing of both materials and a delivery system.

Background of Project

The Home Learning Center Project was the third in a series of longitudinal efforts with the same population which had been involved in the Parent Education Project (PEP) (Gordon, 1967). PEP was a basic engineering effort to answer such practical questions as to whether a set of materials for mothers and infants could be developed and delivered on a weekly basis to the family by paraprofessionals. The PEP project had 150 experimental families and two control groups of about 30 each. One of the control groups was used to look at the issue of making a "friendly" visit versus making an educational visit.

In this control group, graduate nurses visited the families on a systematic basis, but conducted no parent education. The purpose was to explore the Hawthorne effect of simply visiting as being an important criterion. The other control group received only the posttest. This first effort lasted until the children were 12 months of age at which time they were tested. The activitites (materials) developed in this project were based heavily on Piaget's concepts of the development of intelligence in the sensori-motor period.

The PEP project demonstrated that not only could materials be developed and delivered on a weekly basis but also that the program produced differences in intellectual functioning of children at age one. The results showed that the visiting of the families without parent education was not effective. The PEP program was successful in the development of materials which have been widely disseminated in two forms (Gordon and Lally, 1967; Gordon, 1970).

The second project, Early Child Stimulation Through Parent Education (ECSPEP) (Gordon, 1969), continued with the same families and worked with them through 24 months. In this study the original experimental group was divided and half were randomly assigned as a new control group. Since no significant difference was found between the two control groups in the previous study, both these groups were combined into a common pool, and half were randomly assigned to the experimental group in the ECSPEP study. This gave us four different groups, which allowed us to test the relative effectiveness of two years versus one year of involvement and the

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relative effects of being in a program in the first year of life versus the second year of life.

Further, the materials which had been developed in the original PEP project were subject to further test and a comparative set of activities developed to see its' relative merits. To do this, we added two new experimental groups of about 30 each at three months of age and controls. One experimental group received the same treatment as PEP. The other groups received a new set of activities, developed by newly recruited paraprofessional parent educators and an early childhood specialist. No particular theory. These groups were in these two conditions until 12 months of age. They were then incorporated into the 12-24 month program and eventually into the Home Learning Center (HLC). As in the case of the original PEP group, at each age they were randomly reassigned to experimental or control conditions. The HLC project was proposed while the ECSPEP project was still in operation and before the results were in. However, we felt that preliminary indications suggested the merit of extending the longitudinal design to include a third year of home visits and the addition of a small group learning situation on top of the home visit program.

The essential ingredient of the PEP and ECSPEP projects was the weekly visits by trained paraprofessional parent educators drawn from the community who provided the parent with ideas and activities which could be used at home. We hypothesized this procedure would positively influence the intellectual development

of the child. Further, the home visitor system was designed to enhance the parents' sense of control over the environment and self-esteem.

Since the family was viewed as the central learning environment and the home as the critical place for infant education, the parent, usually the mother, was seen as the child's first and most important teacher. Central to these programs was the desire to enhance the parent's view of herself in this regard and to provide her with ways to implement such a view.

The HLC approach to early stimulation continued the basic program with these families through the child's third year of life. The addition of the HLC in sequence to ECSPEP permitted not only an analysis of the effects of the HLC by itself but also its effects in combination with longitudinal intervention begun in the years before age two.

This report describes the HLC program as it was conducted from November 1968 through 1970 and the effects on children and parents three years after termination of the program or at child's age six. The related research cited in the next section was as of January, 1968, and formed part of the background for the rationale of the project.

Related Research

Although there was, by the end of 1967, considerable interest in infant and early child stimulation in the first three years of life, most of the studies had been of a laboratory nature (White, 1964;

Lipsitt, 1967; Hunt, 1966; and Ricciuti, 1965) or of a longitudinal, non-intervention type (Bloom, 1964; Kagan and Moss, 1962; Bayley et al., 1967; Escalona, 1967; and Murphy, L., 1962). Field studies which attempt to use intervention procedures were conducted by Schaefer and Furley (1967) and Caldwell and Richmond (1967). Considerable investigation, but of children above the age of three, had been conducted by Gray and her colleagues (1966) and Weikart and his (1967). In general, the model of these field studies had been to use well educated personnel as the intervenors either directly with the children or with the parent in a home visitor role. Paraprofessionals had been used in many of the Head Start programs and teacher aide work as well as in some of the medical intervention programs. However, in these programs, the paraprofessional was usually supervised on the job. Work with young children (except for the PEP and ECSPEP projects) did not use paraprofessionals in independent roles. We were using the paraprofessional as an intervening agent.

Intervention programs usually dealt with a broad spectrum of behavior (Schaefer and Furley, 1967) or on the relative superiority of a combined home-visitor and center approach in the performance of four and five year olds (Gray and Miller, 1967; Weikart, 1967). The PEP stimulation materials taught to parents were based primarily on a Piagetian cognitive orientation (Gordon and Lally, 1967). PEP results indicated that such a program led to improved cognitive and language performance of infants at age one (Gordon, 1967). There was a paucity of information about intervention

programs for two-to-three year olds, especially programs which were longitudinal in nature, in which the families had participated in stimulation procedures before the child reached two years of age. This project was designed to supply information about that time period.

The technique of using economically disadvantaged women as the major educational group for both mothers and children, developed at the Institute for Development of Human Resources, was employed. The PEP and ECSPEP projects had already demonstrated that these women could be selected, instructed, and placed in other disadvantaged homes to teach mothers ways to stimulate the perceptual, motor, and verbal activities of their infants.

The procedures used in the PEP and ECSPEP projects formed the basic orientation to the HLC project. The cognitive developmental orientation, which might be called neo-Piagetian, that is, the conversion of Piagetian principles and measurement tasks into instructional activities, was to be continued. The basic process of using paraprofessional women as parent educators in a home centered operation is basic to the model. The major change, created by the developmental status of the children (two to three years of age rather than three months to two years of age) was to develop a small-group setting for additional instruction beyond the home visit approach. This new setting- a "backyard center," still would be home-oriented, as it was to be located in the home of one of the mothers whose child was in the program.

Problem

The importance of the earliest years of life as critical in the development of the intellect as well as the personality were generally accepted in current psychological and educational thought. However, we still lacked sufficient knowledge of (1) acceptable instructional materials and tasks for providing such stimulation and (2) practical procedures to reach both urban and rural families whose children need such stimulation techniques. In this project, we sought both types of outcomes, and they were interwoven within one operation.

Given the importance of early stimulation, how should it be provided? What should be done, when should it be done, in what setting should it be done, and for how long should it be provided? The PEP and ECSPEP projects provided, and would provide, beginning answers on the child from three months to two years. The HLC project asked these same questions for the two to three year old.

Objectives

The overall aim was to investigate the effectiveness and practicability of a home centered technique for cognitive, language, and personality development of mother and child, based upon the use of parent and child educators who are themselves members of the population served. This model represented an innovation in family services which, if effective, extended the reach of the professional, upgraded the competence and importance of the non-professional, and in the long run reduced the need for such services as participants

became more capable of meeting their own needs. The specific aims were to answer the following questions:

a. Can a combined home visit and home learning center approach, using paraprofessionals as the key educators of parent and child, be sustained for children ages two to three and their mothers?

b. Can intellectual and personality stimulation materials be developed which can be easily taught to the mother and child by paraprofessionals?

c. Does early child stimulation, provided through a program such as this, have continuing effects as youngsters reach kindergarten and the beginning of school years?

The following hypotheses were tested:

(1) At age three, the child's intellectual performance will be a function of length and timing of training. The order of performance will be from those groups with the most to those with the least training. Where groups have equivalent time in training, the order will be from earliest to latest.

(2) At age three, the child's self-concept will be a function of length and timing of training.

(3) During the time in the home learning centers, children will show a trend toward those behaviors usually associated with positive self-concepts.

(4) The mother's view of herself will be a function of length and timing of participation in the parent education program.

(5) The number and range of mothers' social interactions will be a function of length and timing of parent education.

(6) There will be a trend toward increased community activity in the mothers, in proportion to participation in parent education.

(7) The above differences will continue to hold for the child and his mother up until child's age of six.

This final report relates primarily to the last hypothesis, and those sections of the first six which are appropriate to the longitudinal issue.

2. Procedures

Sample

The sample of mothers and children consisted of 133 families who were in either experimental or control status in the PEP and ECSPEP projects plus an additional 57 experimental and 14 control (randomly assigned) families for whom participation in the project was new. The original sample was identified at birth of the child by the Obstetrics staff of the Teaching Hospital of the J. Hillis Miller Health Center for the University of Florida. The criteria for selection, in addition to the economic code of "indigent" on the hospital admission form and residence in Alachua and 11 other surrounding counties were: single birth, no breach or Caesarian delivery, no complications to the mother or infant, no evidence of mental retardation and no evidence of mother's mental illness.

New families were added into the longitudinal population beginning in November, 1968, in order to investigate the effects of training on children and mothers who had no previous exposure to the project. Criteria for the selection of the new population were less stringent than those for the original population. We did not secure any obstetrical or pediatric screening nor were the babies necessarily born at the health center; rather, they were recruited from families that met the OEO guidelines so that the economic background of the family was similar to that of the original group but we knew less about the health situation.

Since geographic considerations were important in transporting children, we tried to develop areas of contact close to the Centers and assign our parent educators to attempt to recruit families.

Many of the new families were living in two housing projects that had low income as one of the qualifications for admission. Therefore, the procedure for selection for new families, while more subjective, produced a population similar to the original population. Families were not asked their income levels, but those families whose income levels appeared too high were eliminated from the study. In order for the family to be in the program, the mother had to agree to be visited once a week and work with the parent educator. She also had to allow the child to go to the home learning center twice a week. The program was fully explained to the mother and written consent, in keeping with the Public Health Service rules on research involving human subjects, was obtained.

There were a total of 106 families in the HLC group, 55 in control (no intervention) and 43 in control during HLC who had previous intervention.

Treatment Plan

Table 1 indicates the treatment plan showing the various subgroups from 1966 to when the children were six years old. All the children were born between June 1, 1966 and November 1, 1967. The first two years of experimental treatment were in the PEP and ECSPEP programs and consisted of weekly home visits. The third year was in the HLC project and intervention was weekly home visits as well as experience in a group setting twice a week. This plan allowed the testing of the effects of amount and sequence of experience

Table 1

Longitudinal Study - Treatment Design
Child's Age by Months

Group	3-12	12-24	24-36	48, 60, 72
1. all 3 years	Home visit	Home Visit	Home Learning Center/Home Visit	Test
2. first 2	Home Visit	Home Visit	Control	Test
3. second 2	Control	Home Visit	Home Learning Center/Home Visit	Test
4. first & third	Home Visit	Control	Home Learning Center/Home Visit	Test
5. first only	Home Visit	Control	Control	Test
6. second only	Control	Home Visit	Control	Test
7. HLC[1]			Home Learning Center/Home Visit	Test
8. controls	Control	Control	Control	Test

3-12 and 12-24 month phase supported by the Fund for the Advancement of Education (1966-67) and Children's Bureau, HEW (1967-69) (Gordon, 1967-69).

[1]Consisted of children recruited at age 2, not in previous control groups.

on changes in performance of mother and babies. The treatment variables were: presence of instruction, length and timing of instruction, and type and content of instruction. Dependent variables were changes in the mother and child. Specifics are contained in the hypotheses.

The major treatment variable was instruction by a parent educator--child development trainer of mother and child. In order to provide this treatment, there are three steps: (a) development of materials, (b) training of the parent and child development trainers, and (c) implementation in parent education and home learning centers.

The Home Learning Center Program

Development of Materials

In the PEP and ECSPEP projects the original materials for Home Learning activities had been designed by the University group, explained to the parent educators, modified somewhat by their reactions and then reproduced for use. Also, in the ECSPEP project an alternative set of activities was designed by a new group of parent educators and an early childhood education specialist. The parent educators themselves participated heavily in the development and then in the delivery of these alternative materials. At the time the HLC project was proposed, the results were not available as to the relative merits, if any, of these two approaches. We proposed for the HLC, then, an approach resembling the first. We

projected a curriculum development team which would develop materials, try them out on a small sample of children, then present them to the HLC Directors who would eventually use them in home visits and in the centers, and feed back information as to their effectiveness. This procedure proved far too cumbersome and inefficient.

Not only was the procedure difficult to implement logistically but also the results came in on the comparative materials from the ECSPEP project of the performance of the children at 12 months of age. We found no significant difference between the Griffiths Scale performances of children exposed to the original materials versus those exposed to the one developed by the parent educators under professional leadership at age one. In fact, there was considerable similarity between the two sets of activities. Further, the morale of the second group of parent educators seemed to be somewhat higher because of their participation. We made, therefore, a major change in operation in the procedure we used for the creation of materials for home visits and use in the home learning center. We still believed in the development of systematic materials stressing language, cognitive development, and self-esteem. We shifted to involving the HLC Directors themselves more fundamentally in the development of materials. We found that curriculum people from early childhood education and graduate assistants with little training were not able to envision the types of homes in which materials would be needed nor were they really skilled at knowing enough about the behavior and capabilities of two year old children.

In-service training. The activities for the parent educators to use in the HLC were developed on the one day a week set aside for in-service training. During this day the paraprofessionals developed and learned specific tasks to teach the mothers. The Center Directors then went into the field to show the mothers these tasks. We found that a number of the parent educators with three years of experience, who are also our HLC Directors, thought that our original system overlooked many of their good ideas. They had ideas they wanted to try with the mothers. Further, many of our original tasks for this age group did not interest the mothers, especially those who had been with us for the first two years. They felt that they were repetitious and were not challenging to them. Therefore, our new activities were developed with clear criteria of interest for both the mother and child, not just the child alone.

Responsibility for activities development shifted to Dr. Guinagh as Project Field Director, and to the HLC directors, and we dismantled the special curriculum group. At least two hours were devoted to materials on each in-service day. We continued to have a small group of children in our apartment location for try-out and testing. The paraprofessionals did as much of the creating of materials as the professional staff. We developed tasks that were very concrete and easy for mothers to learn and we bought many of the supplies to carry out these tasks. For example, we made small toy bags for each of the children and bought some supplies such as paper, scissors, and crayons to use in teaching the child. We could then be sure that

the mother had all the supplies necessary to teach her child. All the parent educators tried out the new activity during the same week. They discussed the usefulness of the activity during the following week's in-service day and proceeded to the next activity.

This is not to imply a fixed program in which all mothers and children were doing the same thing at the same time. There were a backlog of activities and the HLC Director together with the mother who lived in the home could draw on any of these with the group of children as well as using the general play materials in the center. Further, the activities introduced by the parent educator into the home with the mother were selected to meet the combined needs of mother and child and could be any of the activities that had been developed, not just the one in the process of development. Since children entered the HLC as they turned age two and stayed in it for a year, and since their birthdates covered a seven month time period for the original group and another seven month period for the children entering from the ECSPEP infant phase, the program was geared to the child even while the continuing activity development process was going on.

The specific activities developed in the program have been published in Child Learning Through Child Play, by Ira J. Gordon, Barry J. Guinagh, and R. Emile Jester, St. Martin's Press, 1972. All royalties to date have reverted to NIMH.

The activities we developed were not ends in themselves. Research literature generally suggested that specific tasks or skill training

with the child alone did not necessarily remain or maintain itself when an intervention program was completed. Our goal was to influence the mother and to so develop a relationship between parent and child that home training would continue past the end date of the project. We hoped that through the activities parents would feel a responsibility for their child's education and develop a belief that they have some control over their child's ability to learn. It was evident to us that our paraprofessionals developed a high morale and a certain level of sophistication that would easily maintain itself past the final date of their involvement in this project. The goal was to do this for the parents.

In-Service Training

In the HLC we developed a wide set of materials which enable children to explore and try out their ability to manipulate toys and to use language in relation to them. In PEP and ECSPEP our basic training had been on the delivery of activities and materials on a one-to-one basis to the mother in her home. Visits to the center by the principal investigator, the project field director, and Dr. Jester made us aware of the need for training parents, the directors, and the mothers in ways to cope with a group of children. They needed assistance in organizing the ecological setting to improve the positive emotional climate in the center. Because our original work had been completely on a home visit basis, with a one-to-one contact between parent educator and mother, we had not been aware of some of the limitations in group child rearing techniques of both

the mothers and the parent educators. Therefore, we developed a supervisory system in which the above three professors and Dr. Richard League, who joined the Institute in January, 1969, were assigned to particular HLC directors and visited each weekly on either home visits or at the centers. A portion of the in-service day was set aside for small group meetings of the center directors and faculty to discuss difficulties, to develop ideas for improving positive emotional relationships in the homes and centers, and the general conduct of the group operation. In addition to these group activities, and materials development, each parent educator had about one hour of individual, private conference time with a faculty member to go over her activities with the families and receive support and guidance. Home visits were also made by faculty with parent educators when the latter wanted special help.

The Home Learning Center

The home center or "backyard center" was the home of a mother in the project, selected so as to insure safety to the children and adequate space for a small group.

There were seven centers. Four of the centers were in the homes of mothers in Williston, Newberry, High Springs, and Hawthorne, Florida. The other three centers were located in low income housing projects in Gainesville, Florida. We arranged with the Housing Authority to give the mother an extra bedroom. For example, if her family size allowed her a two-bedroom apartment, the Housing Authority gave her a three-bedroom apartment, and the third bedroom became a backyard center. This room was used only for a backyard center and was not used by the family.

Each child spent four hours a week in two separate sessions at the backyard center. He was transported to the center by the HLC director. A graduate student accompanied her in the car to insure the children's safety. Centers were located in neighborhoods as close to the population distribution of the children as possible so that there was a minimum of transportation. A center was simply a home, especially equipped, where five children at a time were brought twice a week for small group instruction and activities.

The backyard center director was a former PEP or ECSPEP parent educator. This meant that she came from the disadvantaged population. She was trained by participation in the previous projects so that she understood the importance of early child experience and had some of the mechanics of stimulation well in hand. It was our intention as a part of the general upgrading of the parent educator that she was given more responsibility in this new role. She was in charge of the center. The mother in whose home these activities occurred was employed as a helper of the backyard center director. Since one of our major goals is increasing the competence and feelings of self-worth of members of the population, we felt this definition of the task goes toward achieving this aim, although for several practical reasons we did not study changes in the parent educators. A workload for the backyard center director consisted of four days with children and one day of in-service education, working with the materials and learning how to teach small groups of children. The in-service education time served a dual purpose of preparing her for the work with the children and as a testing ground for the materials.

The parent educators were selected on the criteria of: high school graduation, unemployed or low level of employment, some experience with infants. Applications were solicited through church groups, Head Start groups, school officials, and finally the Florida State Employment Service. Two of the initially appointed white educators did not meet the high school graduation criteria. There were many black applicants; few whites. The parent educator staff consisted of 14 black parent educators and three white parent educators. This was in rough proportion to the racial composition of the sample, although all centers were integrated, and home assignments were also integrated.

Parent Education

While the child was in the HLC project, the parent educator worked with the mother on a regular once-a-week schedule. This role was well defined in the PEP and ECSPEP projects and represented a continuation of activity. The parent educator, through explanation and demonstration, showed the mother activities and exercises to be used at home. The work of the mother and the work in the HLC was integrated so that home and center activities complemented and supplemented each other. For example, if a backyard center activity dealt with looking at picture books, then the mother might be shown ways to look at a book with her child.

The mother was also instructed not only in the mechanics of the task, but also in general attitudes towards use of them, and some conceptual framework and rationale for their use. The essential

mode of presentation was demonstrated by the parent educator and modelled by the mother. The parent education program also required introduction of materials into the home which were normally not present. Paper, glue, children's scissors, balls and other material were brought into the home on either a permanent or temporary basis. Although briefly reported here, parent education, using intellectual oriented materials was the central, consistent thrust of the longitudinal program across the three (PEP, ECSPEP, HLC) projects. The program was a home-oriented, not a center-based one, even though there was a small-scale center operation as the main change in the HLC project. The focus consistently was on the family, and the role of the parent as the baby's most important teacher.

Summary

The HLC project had three integrated phases. The first, and most important, was the continued systematic home visitation on a scheduled once-a-week basis. This was designed to enhance the parent's teaching relationship to the child. The second was the continued development of materials for use in the home visits and in the new setting, the home learning center. The third was the home learning center itself, a small group experience for four hours a week, split into two sessions, for five children at a time. The center was staffed by the home visitor, who visited the homes of the children in her center, and the mother who lived in the home which served as a center. Each child thus had a four hour a

week supervised group experience, and the parent had an hour a week home visit. The materials were developed to be usable in both the center and home. The home visitor was the link between the two settings, and involved in materials development. Supervision and support were provided by University faculty and graduate students.

3. Results

Attrition

The first objective was to answer whether a combined home visit and home learning center approach, using non-professionals as the key educators of parent and child, could be sustained for children ages two to three and their mothers. The attrition statistics indicated that the answer is a clear yes. Of the 106 children and families enrolled in the HLC and tested on the Bayley at age two, 104 stayed in the program and were tested at age three. One of the obvious questions in any longitudinal study is the rate of the attrition of the subjects. Although the families were only in the intervention phase of the program while the children were between ages two and three, the design required evaluation at ages four, five, and six.

The attrition found in the HLC was very low, as indicated in Table 2. Using the test given at age two, the Bayley Test of Infant Development, as 100%, 94% of the children in the study (including controls) were still involved at one year later when the children took the Stanford-Binet at age 36 months. (The increase in group seven is because two children missed the Bayley although they were in the HLC.) For children in the HLC (Groups one, three, four, and seven), the attrition went from 106 children to 104. After 36 months, there was no more intervention, and follow-up testing was done on the children's birthday at ages four, five, and six.

Several factors encouraged the parents' cooperation. The mother was given $2.00 for participating in testing. All children were

Table 2

Attrition by Treatment Group

Group	years	Number of Children Taking Test At 24 months	36 months	48 months	60 months	72 months
1	all 3	27	24	23	26	26
2	first 2	14	12	14	12	11
3	second 2	12	12	9	9	8
4	first & third	12	11	11	11	9
5	first only	11	10	10	11	11
6	second only	18	16	15	16	13
7	HLC	55	57	52	51	50
8	controls	55	50	52	52	51
Total		204	192	186	188	179
% of entering		100%	94%	91%	92%	88%

picked up with their parents by the same driver and brought into the testing site. These factors probably helped in keeping the testing attrition rate so low between ages three and six. Some parents who moved and missed a testing called us the next year to tell us they wanted their child to be tested. This is what happened in group six when only 15 children took the test at age four, but 16 took the test at age five. Most parents also seemed to feel that this was an important and interesting activity for their child and wanted to be a part of it.

This study demonstrates that attrition is very low in the HLC program. Attrition over a four year period during follow up testing was only 12%.

Materials Development

The second question was whether intellectual and personality stimulation materials could be developed which could be easily taught to the mother and child by non-professionals. We indicated in the program description section the process of development. The materials developed both in their original mimeographed form and in the form of the book, Child Learning Through Child Play, have been widely disseminated and used in parent and child centers, in training programs for other infant and toddler activities, in the Home Start programs and by individual parents who purchase the materials in commercial bookstores. The answer to the second question, then, is clearly yes.

Lasting Effects

The third question, does early child stimulation provided through programs such as this have continuing effects as youngsters reach kindergarten and the beginning school years, is answered below.

Children's Intellectual Performance

At age six, all children were measured on three instruments: The Stanford-Binet, The Caldwell Preschool Inventory, and The Task Oriented Behavior Scale.

The first two tests are cognitive measures, and the last is a measure of involvement or effort in taking the test. Several samples were used to do statistical analyses. Table 3 presents the data for all children who took all three tests at age six by the eight groups (N=176). Table 4 gives the results on the Stanford-Binet for all six year old children who took this test (N=179). There were three children who completed the Stanford-Binet but did not complete all three of the measures. Table 5 gives the result for children who had the Bayley at age two and the Stanford-Binet at ages three, four, five and six (N=142).

The sample size varies with each of these groups. The different groups have been analyzed in order to see if differences might appear if different criteria were used for the data. Keeping out children from the data who were not present for all three tests, or who were not present for testing each year, may change the characteristics of the sample.

Table 3

Means and Standard Deviations on Four Measures Given at Age 6 by Number of Years and Timing of Participation in the Stimulation Program (N=176)

Group	Years		Stanford-Binet $\bar{X}$	Stanford-Binet SD	Task Oriented Behavior $\bar{X}$	Task Oriented Behavior SD	Preschool Inventory $\bar{X}$	Preschool Inventory SD
1	all 3	26	95.8**	13.3	31.7	4.2	53.5	8.6
2	first 2	11	98.0**	12.7	34.9	9.6	52.4	8.5
3	second 2	8	94.8**	6.7	31.0	2.1	53.3	3.4
4	first & third	9	90.4	10.0	31.6	3.0	48.1	10.3
5	first only	11	91.3	14.4	34.6*	7.2	49.3	11.8
6	second only	13	90.5	13.0	31.3	2.9	48.7	9.1
7	HLC	49	94.8**	12.2	30.9	3.5	51.7	7.2
8	controls	49	89.2	9.8	31.4	2.2	50.6	9.1

**Greater than control at .025 probability level for one-tailed test.
*Greater than control at .05 probability level for one-tailed test.

Table 4

Means and Standard Deviations for Stanford-Binet at Age 6 by Number of Years and Timing of Participation in the Stimulation Program

Group	Years	N	Stanford-Binet $\bar{X}$	Stanford-Binet SD
1	all 3	26	95.8**	13.3
2	first 2	11	98.0*	12.7
3	second 2	8	94.8*	6.7
4	first & third	9	90.4	10.0
5	first only	11	91.3	14.4
6	second only	13	90.5	13.0
7	HLC	50	94.2**	12.7
8	controls	51	88.6	10.2

**Higher than control, $p < .01$, one-tailed.
*Higher than control, $p < .025$, one-tailed.
Total N=179.

Table 5

Means and Standard Deviations on Stanford-Binet at Ages 3, 4, 5 and 6 and Bayley at Age 2 by Number of Years and Timing of Participation in the Stimulation Program

			Age 2		Age 3		Age 4		Age 5		Age 6	
Group	Years	N	$\bar{X}$	SD	$\bar{X}$	SD	$\bar{X}$	SD	$\bar{X}$	SD	$\bar{X}$	SD
1	all 3	20	87.2	14.1	98.1*	16.7	98.4**	21.3	98.4*	13.6	97.4**	12.1
2	first 2	10	83.7	12.7	93.2	14.9	98.7*	11.5	93.7	11.1	99.5**	12.3
3	second 2	8	86.8	5.9	97.5	12.8	98.1**	11.8	94.0	13.4	94.8	6.1
4	first & third	7	80.0	8.6	91.0	10.6	90.6	14.3	93.6	13.7	89.6	11.4
5	first only	9	86.3	14.3	91.7	8.8	97.4	15.5	101.6*	14.0	94.4	12.1
6	second only	10	91.9	17.7	91.5	10.6	86.7	12.8	90.4	14.7	93.4	13.5
7	HLC	37	87.6	14.9	96.5	13.7	96.3*	11.6	93.0	19.7	95.5**	11.9
8	controls	41	89.3	14.1	92.0	10.9	90.5	12.3	91.5	11.2	90.2	10.1
	Total	142										

**Significantly greater than control at .025 for one-tailed test.
*Significantly greater than control at .05 for one-tailed test.

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Group eight is a combination of children who were randomly assigned as controls for the new HLC program when they were age two (N=14), and children who were already in the control group (N=41). Since there was no significant difference between these two groups, they were combined to make N=55 in group eight.

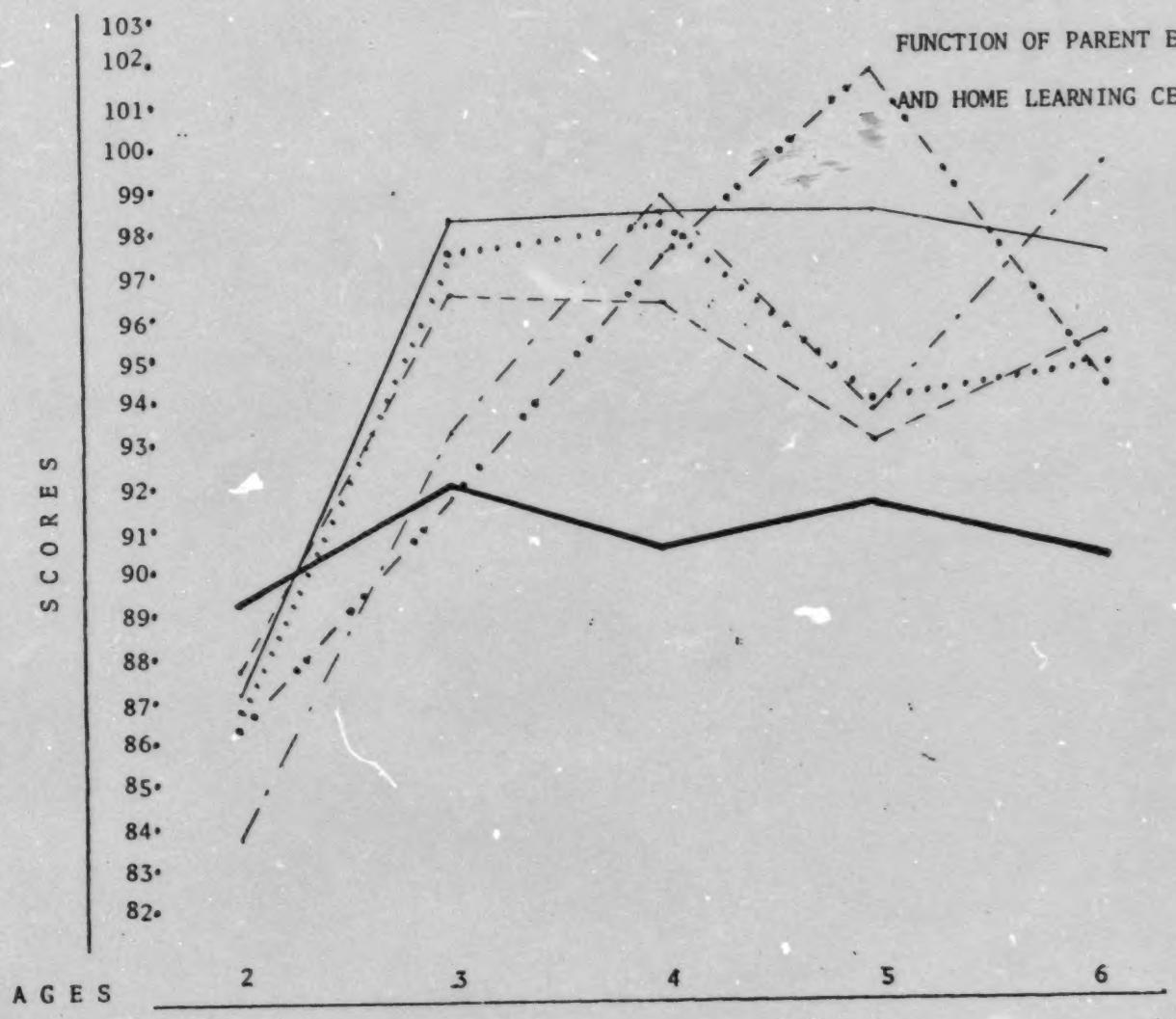
Stanford-Binet. As seen on Table 4, children in the program all three years (group one), the first two consecutive years (group two), or the second two consecutive years (group three), or in the HLC only (group seven) scored significantly higher on the Stanford-Binet than the control group (group eight). The differences are 7.2 points, 9.4 points, 6.2 points, and 5.6 points respectively. These scores are three years after the HLC project was completed (in group one, three, seven), and four years after group two was in a home visit program. These differences are statistically significant, but they are not large in the absolute sense. However, it should be remembered that they occurred three years after the end of the treatment, a treatment that was only minimal and being developed at the time it was in operation. Table 3, with a slightly smaller N (N=176 vs N=179 in Table 2) gives the same results for the Stanford-Binet.

Table 5 gives the data for children who have been tested on each occasion since age two. Figure 1 presents a visual display of some of the data. At age two, there are no significant differences among the eight groups, except that group four is lower than the other seven groups. For group one, the means are significantly greater than group eight, the control group, at ages three, five and six. For group two, the means are significantly greater than

KEY:
- ——— 3 years in Program (3 months to 3 years of age)
- — · — 2 years in Program (3 months to 2 years of age) NO HLC
- ••••••• 2 years (1 year to 3 years, including HLC)
- — — — 1 year (HLC, 2 to 3 years of age)
- •• — •• 1 year (3 months to 1 year, NO HLC)
- ——— Control

FIGURE 1

INTELLECTUAL PERFORMANCE AS A FUNCTION OF PARENT EDUCATION AND HOME LEARNING CENTER.



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the control group at age four and six. Group seven is significantly greater than the control group at ages four and six. Thus, the differences that appear at age six are present earlier, but are not present at all ages. For some years, the differences between the means of treatment and control groups, while approaching significance, do not qualify as statistically different. It might be noted that the restricted sample in Table 5 (those that had every test since age two), gives higher means for the control group than on Tables 3 and 4. This makes it more difficult to reach significance between treatment groups and control groups. Note also that the variance has become more stabilized, and that the standard deviations at age six are less than the usual standard deviation of 16 on this test. The groups are more homogeneous than expected. The data indicate that those in the program for three years or two consecutive years (groups two and three) or in for the third year only have higher means than the control group.

Sex differences on the Stanford-Binet. There are no differences within groups between sexes as seen in Table 6. It appears that there is a difference between boys and girls in groups two and five, but the sample size is so small that the differences are not significant. The treatment appears to slightly favor the girls in the first two groups and the HLC over their controls more than the boys over their controls, with the reverse for group three. There were no sex differences for the Stanford-Binet between the control groups.

Table 6

Stanford-Binet Means and Standard Deviations by Sex and Treatment Group at Age 6 (N=179)

		Boys			Girls		
Group	Years	N	$\bar{X}$	SD	N	$\bar{X}$	SD
1	all 3	12	95.1	13.8	14	96.5*	13.3
2	first 2	7	95.7	11.0	4	102.0*	16.1
3	second 2	3	98.7*	7.1	5	92.4	5.9
4	first & third	3	88.7	4.0	6	91.3	12.3
5	first only	8	93.8	16.0	3	84.7	6.7
6	second only	7	92.4	12.6	6	88.2	14.2
7	HLC	25	94.6	15.9	25	93.8*	8.8
8	controls	22	89.5	11.0	29	87.9	9.6
	Total	87	93.1	13.2	92	91.8	11.0

*Significantly greater than same sex controls, $p < .05$, one-tailed.

Caldwell Preschool Inventory. There were no differences between any of the groups on this measure. This is caused by the ceiling on the test, since the test was originally developed for Project Head Start. This measure correlated with the Stanford-Binet (r=.54; see Table 7).

Task Oriented Behavior (TOB). This instrument measured goal directed behavior. There were no meaningful differences among the groups at age six. The standard deviations were very small for this measure; most of the children were very cooperative and interested. The measure was probably somewhat unreliable because it was a judgment rating scale (see Appendix 1). The correlation between TOB and the Stanford-Binet was .44 at age six (see Table 7).

Conclusion. We can conclude that the HLC program had a significant and lasting effect on intellectual ability of the participants as measured by the Stanford-Binet. Further, children who were involved in the earlier PEP and ECSPEP projects for two or more consecutive years also consistently showed lasting effects. This includes group two who were not participants in the HLC project and were out of the program for four years by age six. Most of the effect of this group may be due to the performance of the girls.

Children's Self-Concept

Previous progress reports have indicated that we were unable to develop a reliable estimate of children's self-concept during the pre-school years. We, therefore, did not test for self-concept

Table 7

Correlations Among Measures at Age 6
(N=176)

	Task Oriented Behavior	Preschool Inventory
Stanford-Binet	.44*	.54*
Task Oriented Behavior		.19
Preschool Inventory		

*p = .001.

at age six since we had no prior measure. However, as part of our earlier work an observation schedule (SITCAT) for use in the back-yard center had been created (Weld, 1973) and the Stott Effectiveness Motivation Scale (SEMS) had been used as a rating of motivation shortly before age three (Kronstadt, 1973). Weld found several items on his observation schedule which related to Stanford-Binet performance and task-oriented performance behavior at age three. Kronstadt found some relationships between the SEMS and Stanford-Binet test performance at age three. This was also true for the girls alone. The SEMS predicted task-oriented behavior for the total group and for boys and girls separately (see Appendix 2 for tables from the 1971 report on the Stott and from Weld's dissertation). We had further found a relationship between the SEMS at age three and task-oriented behavior at age five. This relationship (r=.28, n=51), while small, reflected the continuing ability of a motivational rating of child behavior in the HLC to predict task-oriented behavior a motivational measure, during testing two years later. We, therefore, selected those items from the SITCAT and the SEMS at age three and examined their ability to predict the Stanford-Binet scores and task-oriented behavior scores at age six. Tables 8 and 9 present the means and the intercorrelations. Table 9 indicates that neither the SEMS nor the SITCAT are able to predict reliably performance at age six, although, as we indicated above, the SEMS was still able to do this at age five.

There is still a relationship between task-oriented behavior at age six and Stanford-Binet at age six. We have found this relationship of task-oriented behavior to intellectual performance, both measures taken during the same testing period, each year.

Table 8

Means and Standard Deviations of SITCAT and SEMS Scores at Age 3, S-B and TOB Scores at Age 6 (N=31 Home Learning Center Children)

Item or Test	$\bar{X}$	SD
SITCAT, A6 - Response to adult's suggestion: watches, listens passively	.45	.87
A9 - Response to adult's suggestion: ignores adult	.71	1.08
D1 - Group play: vocalizes to other child or adult	1.10	2.29
G1 - Solitary play: absorbed in play	7.74	3.46
G9 - Solitary play: easily distracted	.94	2.08
SEMS	22.03	9.99
S-B	92.71	10.27
TOB	31.45	3.45

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Table 9

Intercorrelations of SITCAT, SEMS Scores at Age 3 and S-B, TOB Scores at Age 6 (N=31)

	A6	A9	D1	G1	G9	SEMS	^{6}S-B	^{6}TOB
SITCAT - A6		-.10	-.09	.00	-.20	-.08	-.18	-.13
A9			-.11	.04	.34	.25	-.02	-.03
D1				-.20	-.15	.36*	.04	.02
G1					-.08	-.11	.24	.21
G9						.12	.03	.14
SEMS							.16	-.09
S-B								.55*

*r = .35, p = .05.

Mothers' Attitudes and Behaviors

The original hypotheses 4, 5 and 6 dealt with expected changes in the mother as a function of participation in the program. The question we framed at age six was: are there any differences in maternal attitude and behavior as measured by an interview schedule three years after the termination of the project? Tables 10 and 11 present the data. In order to have a reasonable sample size, we grouped the three groups (1, 2, 3 on Table 1) who were in the program for two or more consecutive years and labeled them the longitudinal experimental group. We then examined group seven, those who had only the HLC and group eight, controls. Table 10 indicates there are a number of items from the six year interview (see Appendix 3 for the interview schedule) on which the longitudinal experimental parents differed from controls, but only one item on which HLC parents differed from controls. Generally, longitudinal experimental parents were more willing to allow children to choose their own occupational goals although they expected more education from their children. Further, they have been more likely to continue their own education and to change their job status in an upward direction. They see their children as being able to do academic things better than other children and also as teaching younger siblings materials learned in school. The HLC parents are more likely to want their children to have more education than controls.

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Table 10

Summary of Significant Differences from Six-Year Interview Data

Item No.	Longitudinal Experimental (Groups 1, 2, 3) (N=50)	Home Learning Center Only (Group 7) (N=47)	Controls (Group 8) (N=49)
1. Have you moved in the past year?			
Yes	11*	5	5
No	39	42	44
4. The latest move has been from:			
Renting to renting	4	4	5
Renting to owning	6*	1	0
Owning to renting	1	0	0
7. What is your current marital status?			
Married	38*	25	24
Single	5	14	10
Divorced	3	4	2
Separated	5	6	8
8. What would you like your child to be when he grows up?			
Child's choice	31*	26	17
Mother's choice	23	19	23
9. How much schooling do you expect your child to receive?			
High School	10*	14*	25
Some college	20	9	9
College Grad.	17	21	12
Post Graduate	2	5	1
11. Have you gone back to school, taken any adult education courses or been in a vocational training program?			
Yes	12*	9	6
No	38	36	43
13. Have you changed your job status?			
Yes	13*	4	7
No	37	39	42

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Table 10 continued, page 2

	Longitudinal Experimental	HLC	Controls
16. What things does he/she do better than other children?			
Academic skills	15*	6	9
Other	5	9	11
18. Does your six-year-old teach your other children/child things he learns in school?			
Yes	21*	11	17
No	4	5	11

*Group is significantly different from controls, p = .05.

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Table 11

Home Environment Review (HER) Variables
Six Year Interview

Group	N	1 Awareness		2 Rewards		3 Language Development		4 Avail. of Materials		5 Out of Home		6 Materials		7 Reading	
		$\bar{X}$	SD	$\bar{X}$	SD	$\bar{X}$	SD	$\bar{X}$	SD	$\bar{X}$	SD	$\bar{X}$	SD	$\bar{X}$	SD
1. all 3 years	(24)	4.00*	1.02	4.33*	.64	3.63*	.71	3.83**	1.20	3.38**	1.24	3.71**	.95	3.58**	1.35
2. first 2 years	(11)	3.73	.90	4.27	.65	3.64	.81	2.82	1.60	3.09	.83	3.45	.82	2.73	1.35
3. last 2 years	(8)	3.50	.53	3.75	.46	3.50	1.07	2.88	1.13	2.88	.64	3.25	.71	2.38	1.30
9. 2 or 3 consecutive years	(43)	3.84	.92	4.21*	.64	3.60*	.79	3.40	1.37	3.21*	1.06	3.56**	.88	3.14*	1.41
7. HLC	(48)	3.56	1.01	4.23*	.56	3.58*	.90	3.73**	1.03	3.08	1.03	3.56**	.82	3.50**	1.09
8. Control	(51)	3.55	.86	4.00	.66	3.27	.85	2.98	1.27	2.76	1.05	3.02	.93	2.71	1.19

*Significantly higher than control group, $p < .05$, one-tailed test.
**Significantly higher than control group, $p < .01$, one-tailed test.

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A second way we examined, through the interview procedure, the attitudes and behaviors of the parents was by means of the Home Environment Review Scale (HER). This scale had originally been developed by Garber (1970) as a modification of the measures developed by Wolf (1963) and Dave (1963) under Bloom (1964) at the University of Chicago. To complete this instrument, the interviewer asks the mother several questions and rates the response from one to five (see Appendix 4). We used seven scales. Table 11 indicate that the longitudinal experimental parents who were in for all three years score higher than the controls on all seven scales.

Those mothers who were involved in the HLC program only were higher than controls on five of the seven variables. Awareness, on which the mothers who were in for all three years were higher than both the controls and HLC, has to do with seeing relationships between the child's behavior and school performance. Out of home, the other variable where the three year group is higher, has to do with the parent using the general environment for learning. The higher scores on the HER of the combined longitudinal experimental group is primarily due to group one. The small samples in group two and three may be influencing results, especially since group three was also in the experimental condition in the HLC project. The strong showing of the HLC group indicates that the one-year program, combining the center for the child and home visits for the mother was influential in effecting long-term maternal

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attitudes and reported behavior. The combination of two years of home visits from 3-24 months and HLC was especially effective, as reflected by the HER scores of one group.

The combination of the interview responses (Table 10) and HER scores from the rating scale section of the interview (Table 11) show that mothers who were in the program for three years report themselves as more involved with their children's development and learning, more engaged in self-enhancement, more aware of the child's individuality, more achievement oriented and upward mobile. We can infer from their responses that they seem to have more sense of control and higher self-esteem than mothers who were in the control population.

The mothers who were in the HLC only seem to have been influenced more in their attitudes toward the child, as reflected by the HER, than in the enhancement of their own living situation (items four, 11, 13 on Table 10). The one year program at age two, while effective, does not seem as pervasive in effect as the three year longitudinal program.

Additional Results

Throughout all three of the longitudinal projects, PEP, ECSPEP, and the HLC project, we were concerned about examining process as well as product. In particular, we attempted to measure the effects, within the experimental group, of maternal variables on child performance. In the ECSPEP project, two dissertations (Herman, 1970; Etheridge, 1971) demonstrated the relationships between maternal attitudes towards self and attitudes toward the project and child performance on the Bayley Scales at age two. Longitudinally, were

such relationships still predictive several years later? Tables 12 through 15 present the data. Table 12 presents the means and standard deviations for the Stanford-Binet at age six for the total population of 135 on whom we had Stanford-Binets as well as Social Reaction Inventory information and educational level information at age three. Table 12 indicates that the average mother had not graduated from high school. The Social Reaction Inventory (SRI) is a modification of the Rotter (1966) I-E Scale and had been developed for this project by Bilker (1970). Table 13 indicates that the SRI scores of the mother at child's age three and the educational level of the mother at child's age three were still predictive for the total population, experimental and controlled combined, of Stanford-Binet performance at child's age six.

Table 14 presents, by group, the means and standard deviations of the data in Table 12. The experimental group here fits the same definition as that used in the six year interview data, that is, those in groups one, two and three of the longitudinal effort. The How I See Myself (HISM) Scale is a modification of Gordon's (1968) How I See Myself Scale developed for children between three and twelve and was refactored on over two thousand Follow Through parents in 1969-1970 (see Appendix 5 , Gordon & Jaffe). Table 15 indicates that for the longitudinal experimental group only, Stanford-Binet at age six is predictable from the SRI. The negative relationship is in the correct direction because high scores on the SRI represent an external view of reinforcement, low scores an internal locus

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Table 12

Means and Standard Deviations, Maternal Variables at Child's Age 3 and Stanford-Binet at Child's Age 6 for Related Items

Maternal Variable	$\bar{X}$	SD
Social Reaction Inventory		
Total (N=135)	9.27	3.25
Mothers of Boys (64)	9.53	2.81
Mothers of Girls (71)	9.03	3.59
Educational Level[1]		
Total	2.34	.86
Mothers of Boys	2.36	.97
Mothers of Girls	2.32	.75
Stanford-Binet		
Total	91.82	11.29
Boys	91.70	10.59
Girls	91.94	11.89

[1]Educational Level: 1=grade school, 2=up to 12th grade, 3=high school graduate, 4=some college, 5=college graduate.

Table 13

Significant Intercorrelations Between Maternal Variables at Child's Age 3 and Stanford-Binet Scores at Child's Age 6 (Total Population)

Maternal Variable	Stanford-Binet	Educational Level
Social Reaction Inventory		
Total (N=135)		-.21
Boys (N=64)		
Girls (N=71)	-.31	-.35
Educational Level		
Total	.25	

Table 14

Means and Standard Deviations for Maternal Variables at Child's Age 3 and Stanford-Binet at Child's Age 6, by Group

Variable	Group					
	Experimental (N=37)[1]		Home Learning Center (N=34)		Control (N=40)	
Stanford-Binet	96.27	12.05	93.76	9.64	87.53	9.16
How I See Myself						
Interpersonal Adequacy	55.84	11.34	57.56	10.44	52.73	11.90
Social	39.41	4.46	38.82	7.74	38.90	7.68
Personal Appearance	21.57	5.82	21.56	4.70	20.05	6.72
Competence	17.76	4.03	16.74	5.91	18.00	4.69
Social Reaction Inventory	8.62	3.35	9.33	3.20	9.85	2.99
Educational Level[2]	2.46	.83	2.50	1.06	2.15	.57

[1]Experimental means at least two consecutive years in the program. Includes groups 1, 2, 3.

[2]Educational Level: 1=grade school, 2=up to 12th grade, 3=high school graduate, 4=some college, 5=college graduate.

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Table 15

Significant Intercorrelations Among Maternal Variables at Child's Age 3 and Stanford-Binet Scores at Child's Age 6, by Group

Variable		Stanford-Binet	Interpersonal Adequacy	Social	Personal Appearance	Competency	Social Reaction Inventory
	Experimental longitudinal (N=37) HLC (N=34) Control (N=40)						
How I See Myself							
Interpersonal Adequacy	E		.41				
Social	HLC		.72				
	C		.57				
	E	-.33	.77	.42			
Personal Appearance	HLC		.66	.59			
	C		.71	.63			
	E			.47	.48		
Competence	HLC		.58	.60	.57		
	C		.47	.70	.32		
	E	-.48					
Social Reaction Inventory	HLC						
	C						
	E						
Educational Level	HLC			.34		.42	-.43
	C						

of control. There is also a barely reliable (.33) negative relation between HISM personal appearance and the Stanford-Binet for which we have no particular explanation. Table 15 also reveals that for this population there are considerable relationships within each group among the four HISM factors.

As indicated above, the Herman (1970) and Etheridge (1971) studies have used not only the HISM and the SRI, but also a measure of mother attitude toward the project. This was developed from the weekly reports (Parent Educator Weekly Report [PEWR]) completed at the end of each home visit. Since the report used in the HLC differed slightly from the reports used in the ages three to twenty-four months, we established a new mother attitude index (MAI) matching the old one as much as possible (see Appendix 6 for both the Parent Education Weekly Report and the items used for computing the mother attitude index). We then did a multiple regression analysis of the two maternal attitude self-report scales (HISM and SRI) and the MAI against the Stanford-Binet as the dependent variable. Table 16 presents the means and standard deviations, Table 17 the intercorrelation matrix and Table 18 the regression data. There were 69 mothers on whom we had complete enough data for doing this analysis, all obviously within the experimental group in order to have PEWR data. The data indicate that maternal attitudes, both toward the project and toward herself at child's age three predict Stanford-Binet scores at age six (Table 18). Of the seven maternal variables, five contributed significantly to the multiple regression equation,

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Table 16

Means and Standard Deviations, Home Learning Center Population Used in Multiple Regression Study (N=69)

Variable and Group	$\bar{X}$	SD
Stanford-Binet (age 6)		
Total (N=69)	94.81	10.58
Boys (N=31)	95.03	11.77
Girls (N=38)	94.63	9.66
MAI		
Total	.34	.12
Boys	.32	.13
Girls	.35	.12
Mother education		
Total	2.41	1.07
Boys	2.52	1.26
Girls	2.32	.90
Social Reaction Inventory		
Total	8.90	3.63
Boys	9.13	3.63
Girls	8.71	3.67
HISM		
Interpersonal Adequacy		
Total	56.63	12.32
Boys	58.13	11.08
Girls	56.37	10.13
Social		
Total	39.45	6.56
Boys	39.68	7.09
Girls	39.26	6.19
Personal Appearance		
Total	21.41	5.02
Boys	22.74	4.64
Girls	20.32	5.11
Competence		
Total	17.64	5.21
Boys	18.26	5.88
Girls	17.13	4.62

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Table 17

Intercorrelations of Maternal Variables at Child's Age 3 and Stanford-Binet at Age 6 for Home Learning Center Population on Whom all Data Available (N=69)

	Stanford-Binet (6)	Education	Social Reaction Inventory	Interpersonal Adequacy	Social	Personal Appearance	Competency
MAI							
Total (N=69)	.26*	.00	-.02	-.04	.04	-.04	-.16
Boys (N=31)	.18	-.17	-.02	.30	.12	.07	-.07
Girls (N=38)	.31*	.23	-.05	-.27	-.24	-.11	-.18
Mother Education							
Total	.15		-.29*	-.05	.04	.04	.15
Boys	-.04		-.17	-.07	.26	.06	.28
Girls	.42**		-.46**	-.09	-.08	-.02	-.08
Social Reaction Inventory							
Total	-.24*			-.02	-.02	.21	-.18
Boys	-.24			.05	-.12	.29	-.31
Girls	-.25			.02	-.27	.09	-.01
HISM							
Interp. Adeq.							
Total	-.18				-.12	.60**	.56**
Boys	-.15				.45	.63*	.43*
Girls	-.29				.62**	.78**	.48**
Social							
Total	-.02					.25*	.07
Boys	.11					.47**	.64**
Girls	-.14					.41*	.45**
Per. Appear.							
Total	-.24*						.31
Boys	-.36*						.20
Girls	-.15						.43**
Competency							
Total	-.04						
Boys	.07						
Girls	-.21						

*p = .05.
**p = .01.

Table 18

Multiple Regression Maternal Variables at Age 3 to Stanford-Binet at Age 6 (N=69)

Maternal Variable	Step	Mult. r.	F ratio	Direction of Correlation
Mother attitude index	1	.26	4.67*	+
Social Reaction Inventory	2	.35	4.49*	-
HISM - Personal Appearance	3	.39	3.98*	-
Mother's education	4	.41	3.21*	+
HISM - Interpersonal Adequacy	5	.41	2.58*	+

*p = .05.

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although most of the contribution was made by the first two (MAI and SRI). This indicates a persistent relationship between the maternal affective domain and child intellectual performance.

The data were analyzed by sex, since both Herman and Etheridge found differences. The maternal variables for the boys which are predictive of their performance at age six (Table 19) are two HISM factors (Personal Appearance and Social) and mother's attitude toward the project. In combination, they account for 26% of the variance. Mother's education (Table 20) is the potent influence for the girls, accounting for almost 18% of the variance. In combination with it, one HISM factor (Interpersonal Adequacy), attitude toward the project, which is not, in either case, the principal variable, the maternal variables related to child performance are different for boys and girls. In the case of the boys, the variables are all affective; for the girls, mother's education is more central. In either case, there is a persistent relationship between maternal variables when the child was three and the child's intellectual performance at age six.

Summary of Results

Three main questions were addressed in this (HLC) phase of the longitudinal infant intervention through parent education series of studies. First, could a combined home visit and home learning center approach, using non-professionals as the key educators, be sustained for children ages two to three and their mothers? The operation of eight centers, and the low attrition data during the time families were actively involved, lead to the answer: Yes.

Table 19

Multiple Regression, Stanford-Binet at Age 6
Boys (N=31)

Maternal Variable	Step	Mult. r	F ratio	Direction of Correlation
HISM - Personal Appearance	1	.36	4.40*	-
HISM - Social	2	.47	4.07*	+
MAI	3	.51	3.09*	*

*p = .05.

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Table 20

Multiple Regression, Stanford-Binet at Age 6
Girls (N=38)

Maternal Variable	Step	Mult. r	F ratio	Direction of Correlation
Mother education	1	.42	7.69**	+
HISM - Interpersonal Adequacy	2	.49	5.46**	-
MAI	3	.51	4.08*	+
Social Reaction Inventory	4	.52	3.06*	-

*p = .01.
**p = .05.

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Second, can materials be developed which can be easily taught to mother and child by paraprofessionals? The development and publication of activities leads to the answer: Yes.

Third, does such a program make a difference to both parent and child several years later? The Stanford-Binet data on the children and the interview data on the mothers lead to the answer: Yes.

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4. Discussion

Longitudinal Effects

The data presented above indicates that the series of projects including the HLC had long-term effects on both children and mothers. Basic questions lying behind the series of longitudinal efforts between three months and three years of age were the relative contributions of length of time (one, two or three years) and order of time (first, second or third year, combinations of two years) to the effects on children and parents. We can infer from the data that the most effective results were achieved with those families who were in the program continuously from the child's age three months through three years. The effects on the children in terms of Stanford-Binet scores at age six and on the mothers, as revealed on the general interview and Home Environment Review scales, show that this group consistently exceed the control population and have maintained a steady path over the last three years from the child's sixth birthday.

The next set of effects seem to be most pervasive for the children who were in for two consistent years, either the first two or the last two years from three months to 24 months or 12 months to 36 months. Children who were in for both the first and third year do not show superiority to the control population. When we turn to those who were in for only one year, the data at age six indicate the superiority of the HLC combined approach of home visits and small group over control for both mothers and children. Neither of the other one year efforts shows this. However, it should be remembered that the children who were in for the first year of life

were out of the program for five years, whereas the children who were in the HLC were out of the program only three years. Further, when we examine the results at age five, it is clear that there are lasting results for participation in the first year of life only.

It is also evident from all our data that our program in the second year of life only (12 to 24 months) was an ineffective effort. We have commented in other places (Gordon, 1969, 1973) that this may have been due to several factors such as the focus on motor development in the early part of the second year of life, the nature of the activities may not have been as useful as in the first year and the fact that the mothers may not have seen gains that are so easily seen in the first year. We would suggest that intervention programs consider work for a minimum of two years and possibly longer if they wish to achieve some long-lasting gains for the family. The HLC year alone has such effects on both children and parents, but the effects do not seem as profound on the parents as do those of the long-term three year program.

To what do we attribute the lasting effects on children? We have no clear data but we would speculate that the sustaining of gains on the Stanford-Binet for at least three years after the end of the program should not be attributable to any of the activities per se. Indeed, we found in the ECSPEP project that two different sets of activities did not differentiate in the performance of children at age one. Because we see the attitudes and behaviors

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of the mothers as critical, we would speculate that the gains are due to the changes in maternal attitudes and feelings about education, about the child and about themselves. It is these that contribute to maintenance of the differences between experimental and control.

An analysis of the correlation between parent and child measures show how important maternal attitude is in influencing child intellectual performance. Since most of this analysis was done within the experimental group, these are influences over and above the program itself.

The HLC was successful. The longitudinal program was also successful. The concept of a paraprofessional home visitor recruited from the community and working on a one-to-one basis with parents at home seems to be a useful and successful one. Further, the amount of intervention in these projects, because of the nature of the research design and our desire not to have extrensic reinforcements via comprehensive services or the possibility of one interpreting threat of loss of service as requirement for participation, was limited. Homes were visited only once a week; in fact, visits were made two weeks out of three. The time spent in each visit was usually less than an hour. The information conveyed was demonstration of simple activities and the encouragement of the mother to not only use these during the week, but to develop her own. Few materials were provided and mothers were shown ways to make their own. Further, we were developing the program while we were implementing it, so that there were supervisory, training and conceptual errors made during the course of the years. Nevertheless,

in spite of the limited approach, the development problems and the lack of comprehensive services, we feel quite confident we can state that the effort was successful. Further, it is highly generalizable and we shall discuss that below.

The Project as a Model

We indicated on page 1 that the project was developed to demonstrate an approach which might either be used as part of the operations of parent and child centers or would serve as a possible model for family day care. In 1974, it is clear that the concept of home-based and home visitor programs has been widely adopted both in the operations of parent and child centers and in the Head Start Program as well. Further, our Follow Through model, in operation in eleven communities in ten states, was based upon the concepts developed in these projects. The research by other investigators, such as Levenstein (1972), Karnes (1972), Gray (1966), and Weikart (1969), along with ours, most likely accounts for the wide spread proliferation of home-oriented preschool programs. Each of the above investigators worked in somewhat different fashion, but the common thread was home visitation of a consistent type. Our main contributions were the use of the paraprofessional, the beginnings as early as three months of age and the development of materials which also had been widely disseminated (Gordon, Guinagh, and Jester, 1972).

The Home Learning Center concept. The Home Learning Center concept had many unique aspects. In our program, it was always seen as supplemental to the home visit phase of the program. The HLC helped the home visit phase by giving the parent educator direct

experience with the child and it gave the parent educator and mother a common topic of discussion: the child's behavior. Of course, it had the obvious benefit that the children and mothers liked the idea of "going to school."

As we used it, the HLC was different from other group settings for young children. First, the sessions lasted only two hours and occurred only twice a week. The program was in no sense day care, but more like an abbreviated nursery school experience. Even with this short amount of time, the children seemed to adapt well to the experience. A second point was the age of the children. All were between age two and three. This is a difficult age to work with because the children do not work well in groups. They are too young to follow directions. It was also impossible to work with them individuallly in any planned fashion, i.e. 15 minutes with each as we had originally planned. The adult had to be flexible and pick up on and be responsive to the interests of the children. They could work with individual children, but the selection of when or how long and with what was a choice usually made by the child.

There were household duties which had to be performed because of the age of the children. Diapers had to be changed, snack time, etc. This meant that the HLC staff were not able to spend the total two hours in instructional or supportive interaction with the children. They could provide a generally comfortable learning environment. The children were freed during most of this time to relate in their own fashion with each other and with the materials in the center,

but the two adults had to spend a portion of their time in general management. This required emphasis in the in-service training of understanding how to work with a group of children.

The special strength was the way in which the HLC aided the home visit program. It was a place designed for knowing the child better, so that when the parent educator worked with the mother, she could match the suggested activities to her knowledge of the child rather than the high possibility of mismatch if activities were simply taken to the home. Another strength was the small number of children. There were only five children and two adults. Most of the parents and most of the children would have preferred being able to attend more days a week for longer periods of time.

We would suggest from our experience that any HLC utilize (1) a combination of center and home visitation, (2) small groups of children, and (3) a broader age range than ours. Hopefully, it would also be possible in other programs to have a longer period of time and more days of the week. A question, however, is whether following the last suggestion of longer periods and more days would lead parents and staff to see the program as center based. It may be that our four hours a week kept the emphasis where we desired it, that is, on the home visit end of the program, rather than on the center.

Our HLC's were located in the parents' homes. There were a number of problems with this. First, since the child of the HLC

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mother was living at home, there was the issue of the relationship of that child to the parent educator and mother, when both were working together in the center. Since some of the HLC's have been set up on a somewhat permanent basis, the child living in the home often viewed all the toys as his, rather than as belonging to the center. In addition, in many of the homes there were other pre-school children of the mother present, but they were not involved in the program. We had babysitter problems and a number of difficulties because of this situation.

There were also problems if the HLC mother or any of her children were ill. This meant the center had to be closed. It also cut the mother off from some of her normal social patterns. She found it difficult to respond to friends visiting during the day or phone calls if she were at work. The concept of being at work imposed limitations upon her general effectiveness. Early in the game there were problems in the cleanliness and sanitation of the home. This had been especially true in cases where families had moved from extremely inadequate rural facilities into apartment housing projects. Parents needed to learn how to manage this type of situation so that the center would be clean and other mothers willing to send their children there. In spite of these problems, many of the centers were excellently managed and these issues functioned at a minimum.

We would suggest that it may be wiser to utilize some place other than actual home for such a program. We would emphasize the desirability of maintaining a home-like atmosphere, a small group arrangement and locating such places in neightborhoods, rather than

central large centers. This would mean capturing the positive elements of the HLC without impinging upon the privacy of the family or creating difficult situations for mother and children.

We handled transportation by utilizing the center director or parent educator as the chauffeur. She picked up the five children on her way to the center and returned them at the end of the session. We always had another adult in the car with the children to help out. Usually, this was a graduate student whose job was observation in the center. We would emphasize here again the desirability of neighborhood so that transportation would be kept at a minimum.

Training. Training for the paraprofessional working the HLC was different than for a home visit only program. Working with groups of two year old children as well as with another adult involved new skills that were not needed in a purely home visit program. For example, in a home visit, the parents of the children are in charge of the discipline of the children. In the HLC the parent educators are faced with child management problems. Further, the use and pacing of activities required considerable training. At this age most of the children were engaged in parallel play. It was difficult to work with them as a group, yet it was not always possible to work with only one child at a time at the adult's convenience. It seemed that whenever the parent educator wanted to work individually with a child, another child would want to have her attention. It was necessary then to work with the parent educators and the mothers to help them learn to seize the moment for working with children. This was a skill that some of the parent educators had to learn. It took patience, timing and the ability to be sensitive to children's interest.

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Initially, some parent educators were entirely too directive with the children, while others could not figure out how to interact with the group. These latter had a tendency to sit in the corner and watch the children play. This, of course, created a training problem. Another training problem was that some of the parent educators saw the HLC as so interesting and so vital that they tended to view the home visit as less important. This was in spite of the fact that our emphasis was on the combination of center and home. They felt that if the child missed an activity for a week because of an inability to make a home visit, that the activity could be taught in HLC. This missed the point of the program. It was not the activity per se that was of so much importance but the interaction of parent and child through the activity.

These training needs we would suggest are common enough that they should be addressed in any similar program. Hence, for a continuing program in-service training needs to be more than just the mechanics of how to do a home visit and the routines in HLC. There needs to be a consistent orientation toward responsivity to children, training in group management, in adult interaction, and continuous focusing upon the priorities of the program. Further, it is helpful and desirable if an external agency can also be involved in in-service education in addition to staff. In our case, the Santa Fe Community College was extremely helpful. They offered a course in Child Development and also gave an equivalent of a semester's credit toward an Associate of Arts degree for our parent

educators who were involved with us over the years. Since 1968 there have been a number of training efforts in a variety of the field programs. Career Opportunities program and the new Child Development Associate program will certainly fill many of the gaps for training which were not available when we began.

Even with academic course work, we would strongly urge a high degree of one-to-one supervision in which the home visitors and/or center directors can have a minimum of an hour a week private consultation, as well as a total of one day a week of in-service training. This in-service training can consist of materials development, discussion of group management skills, explorations of individual issues and problems, as well as the enlargement of the general understanding of child development.

A focus for this in-service training must be on the home visit. Staff need to be reminded continuously that the family is the primary learning environment and that the long range effects are achieved through working with the parent.

It becomes very easy to be trapped in skill training because of the many problems of managing activities and to lose sight of the long-range goal which is the enhancement of the home as a learning center. This means that both pre-service and in-service training time need to be devoted to understanding the role of parents' attitudes toward children, the kinds of conditions which seem to foster growth at home (such as are measured by HER) and the fact that the individual activity is merely a vehicle for communication and relationship between adult and child. We found in all our projects that there was a tendency for staff to be highly task-oriented

rather than child or mother-oriented. That is, if the activity required stacking blocks, the tendency was to be more concerned with block-stacking than with the process of interaction between mother and child or the behavior of the child and his interest, motivation and joy in performance. Training then needs to be very central to the operation. It is probably the key factor in ultimate success.

As a result of the project, materials were developed, the HLC concept tried out, and utilization of it has been mentioned above. Overall, we feel confident that this model of home visitation-Home Learning Center is a viable, reasonable and effective procedure for working with families of young children in a way which enhances both the family and the child.

Further Research

Any program of research always suggests additional research. The answering of one set of questions leads to the development of a new set. First, although it is clear that the effects of this program last through kindergarten, it seems to us important that these families and children be followed so that we can see whether the effects persist in the early school years. There should be no reason to expect that the effects will last forever. Life is far too situational. We cannot expect the results of any program to persist without some reinforcement in society and school. We noted that the parents seem more educationally oriented and more involved and the children certainly were functioning at a somewhat higher level that controls.

However, all this can be turned around in school. One purpose of the national Follow Through program was to sustain effects of Head Start. We need longitudinal studies of programs such as ours to see what the natural effects are which may suggest to us additional intervention strategy.

The analyses of the relationships between maternal and child variables also indicate the need for much more multi-variant study of the relationships between family variables and child performance within experimental groups. All intervention programs have made general assumptions about the group being served and have tended to deliver the same service or same program to each child or each family. Yet, we are all aware of the problem of the match, the issue of subject by treatment designs or the notion of aptitude treatment interaction. More careful fine-grained analyses of the entry behaviors of parents and children related to the activities and program and then to outcomes are needed. We are at a point where programs such as ours and the others mentioned above have demonstrated the general effectiveness of the concept of home visitation and the utility of paraprofessionals as workers with families. We now need more programs which use rifle rather than shotgun approaches.

It was also clear that there are wide differences of teaching style within the group. Our work in Follow Through, and the responses to our materials, supports the view that these differences exist in other populations, such as the middle class. We need further research on both parent education and parent-child transactions in all segments

of our society. We also need data on the way society supports or negates the role of the family in child development.

In summary, this project, combining elements of field research, program development and materials development demonstrated that such work can contribute to not only our scientific knowledge but also our implementation capacity. It is a demonstration of the link between child development and social policy.

Publications. Appendix 7 lists the publications, dissertations and papers produced as a result of the Home Learning Center project.

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APPENDICES

Appendix I

Schaefer's Task Oriented Items from the Bayley Infant Behavior Profile[1]

---

4. Object Orientation[2]
7. Goal Directedness
8. Attention Span
9. Cooperativeness
36. Test Adequacy[2]

---

[1]Personal correspondence with Earl Schaefer
[2]All items on 9 point scale, except test adequacy, which is a 5 point scale.
Maximum possible score = 41

Appendix 2

SITCAT and Stott
Age 3 Relationships

APPENDIX 2

Situational Categories Observation Schedule (SITCAT)
Gary Weld, University of Florida

This schedule was developed as a research instrument in conjunction with the Home Learning Center Approach to Early Stimulation Project (NIMH Grant #RO1 MH 16037-01). Ira J. Gordon, Principal Investigator; Barry J. Guinagh, Project Director.

NAME_____ NO. AND GROUP_____ SEX_____

DATE OF OBSVN._____ DATE OF BIRTH_____ RACE____

OBSERVER _____ CENTER DIRECTOR _____

DIRECTIONS

The Situational Categories Observation Schedule provides a framework for observing and recording the behavior of preschool youngsters singly or in small groups. It is designed to incorporate both situational and sequential dimensions of behavior in one record. Efficiency and ease of use can be gained through a thorough familiarization with the situation categories.

In using the schedule each child is observed individually for five separate but consecutive 2-minute periods, making a total observation time of 10 minutes for each child. During each 2-minute period the behaviors observed are recorded in the appropriate column (1-5) for each situation "A"-"I" (or under "J" if the behavior did not occur within a particular situation), using consecutive numbers to indicate the order in which the behavior occurred. For example, if the child (C) is absorbed in solitary play when the first 2-minute observation begins, a "1" would be placed in column 1, opposite G1; if within the same 2-minutes the child next gets a different toy, a "2" would be placed in column 1 opposite G5. If the new toy is then taken away by another C and the observed C begins to cry, a "3" would be placed in column 1 opposite E8. If at the beginning of the second 2 minutes an adult (A) is attempting to reinterest the child in something new and he listens but does nothing, a "1" would be placed in column 2, opposite A6. These recording procedures are continued throughout the remaining observation time so that within each 2-minute period (column) there is a series of consecutive numbers beginning with 1.

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Space is provided on the back of the schedule for recording characteristic examples of the child's speech at the conclusion of each 2-minute period.

The remarks section is intended to be used for describing any behaviors the observer feels have not been adequately recorded elsewhere.

Observation Period 1. 2. 3. 4. 5.		A. A makes suggestion or gives demonstration to individual C
— — — — —	1.	Follows enthusiastically
— — — — —	2.	Follows w/o protest
— — — — —	3.	Follows w/overt protest
— — — — —	4.	Follows w/vocal protest
— — — — —	5.	Tries to follow w/c success
— — — — —	6.	Watches/listens passively, no response
— — — — —	7.	Refuses w/overt protest
— — — — —	8.	Refuses w/vocal protest
— — — — —	9.	Ignores A; continues activity
— — — — —	10.	Situation did not occur

Observation Period 1. 2. 3. 4. 5.		B. A makes suggestions or gives demonstration to group of C
— — — — —	1.	Follows enthusiastically
— — — — —	2.	Follows w/o protest
— — — — —	3.	Follows w/overt protest
— — — — —	4.	Follows w/vocal protest
— — — — —	5.	Tries to follow w/o success
— — — — —	6.	Watches/listens passively, no response
— — — — —	7.	Refuses w/overt protest
— — — — —	8.	Refuses w/vocal protest
— — — — —	9.	Follows group action
— — — — —	10.	Opposes group action
— — — — —	11.	Ignores A; cont. own activity
— — — — —	12.	Ignores grp. action; cont. own act.
— — — — —	13.	Situation did not occur

Observation Period 1. 2. 3. 4. 5.		C. A thwarts C's action/request
— — — — —	1.	Accepts w/o protest
— — — — —	2.	Accepts w/vocal protest
— — — — —	3.	Accepts w/overt protest
— — — — —	4.	Cries or screams
— — — — —	5.	Disrupts activity of other C
— — — — —	6.	Isolates self
— — — — —	7.	Continues action after warning
— — — — —	8.	Situation did not occur

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Observation Period 1. 2. 3. 4. 5.

D. Group play: Interact w/C

— — — — —	1.	Vocalizes to other C/A
— — — — —	2.	Smiles/laughs
— — — — —	3.	Cont. activity when other C leave(s)
— — — — —	4.	Grp. breaks up when C leaves
— — — — —	5.	Participates silently
— — — — —	6.	Watches A(s)
— — — — —	7.	Helps other C
— — — — —	8.	Shares toys
— — — — —	9.	Grp. breaks up when A leaves
— — — — —	10.	Situation did not occur

Observation Period 1. 2. 3. 4. 5.

E. C disrupts obsvd C's play

— — — — —	1.	Continues play w/offending C
— — — — —	2.	Physically struggles w/offending C
— — — — —	3.	Goes to another C for help
— — — — —	4.	Begins new game w/o protest
— — — — —	5.	Begins new game w/overt protest
— — — — —	6.	Begins new game w/vocal protest
— — — — —	7.	Goes to another C & plays w/o protest
— — — — —	8.	Cries/screams
— — — — —	9.	Goes to A for help
— — — — —	10.	Isolates self
— — — — —	11.	Ignores offending C
— — — — —	12.	Situation did not occur

Observation Period 1. 2. 3. 4. 5.

F. C Assaults Obsvd. C

— — — — —	1.	Protests verbally
— — — — —	2.	Threatens offending C
— — — — —	3.	Strikes offending C
— — — — —	4.	Goes to other C for help
— — — — —	5.	Goes and plays w/o protest
— — — — —	6.	Cries
— — — — —	7.	Goes to A
— — — — —	8.	Isolates self
— — — — —	9.	Continues activity
— — — — —	10.	Situation did not occur

Observation Period 1. 2. 3. 4. 5.

G. Solitary Play

— — — — —	1.	Absorbed in play
— — — — —	2.	Vocalizes to self
— — — — —	3.	Verbalizes to self
— — — — —	4.	Smiles or laughs to self
— — — — —	5.	Changes toys or game
— — — — —	6.	Inappropriately uses toys
— — — — —	7.	Looks at A while playing
— — — — —	8.	Looks at C while playing
— — — — —	9.	Easily distracted
— — — — —	10.	Situation did not occur

Observation Period 1. 2. 3. 4. 5.	H. Reaction to Success
— — — — —	1. Repeats game
— — — — —	2. Stops play
— — — — —	3. Goes to new game
— — — — —	4. Shows to A
— — — — —	5. Shows to C
— — — — —	6. Smiles to self
— — — — —	7. Vocalizes to self
— — — — —	8. Claps hands
— — — — —	9. Jumps/runs
— — — — —	10. Situation did not occur
— — — — —	

Observation Period 1. 2. 3. 4. 5.	I. Reaction to Frustration
— — — — —	1. Stops play
— — — — —	2. Isolates self
— — — — —	3. Throws/kicks toys
— — — — —	4. Cries/Screasm
— — — — —	5. Goes to new toy/game
— — — — —	6. Goes to A for help
— — — — —	7. Goes to C for help
— — — — —	8. Persists w/unsuccessful response
— — — — —	9. Situation did not occur
— — — — —	

Observation Period 1. 2. 3. 4. 5.	J. Additional Behavior
— — — — —	1. Mouths fingers
— — — — —	2. Mouths objects
— — — — —	3. Fingers/touches object
— — — — —	4. Passively observes A
— — — — —	5. Avoids other C
— — — — —	6. Avoids A
— — — — —	7. Seeks nearness to A
— — — — —	8. Seeks nearness to C
— — — — —	9. Interrupts C's play
— — — — —	10. Talks/plays w/A
— — — — —	11. Talks w/C
— — — — —	12. Seeks help from A
— — — — —	13. Seeks help from C
— — — — —	14. Shows/gives toy/work to A
— — — — —	15. Shows/gives toy/work to C
— — — — —	16. Asks A for toy
— — — — —	17. Cries/screams
— — — — —	18. Moves freely about room
— — — — —	19. Isolates self
— — — — —	20. Smiles/laughs/squeals
— — — — —	21. Shows affection
— — — — —	

VERBALIZATIONS

1. 2. 3. 4. 5.

REMARKS

00030

MEANS AND STANDARD DEVIATIONS OF BEHAVIORS OBSERVED IN THE SMALL GROUP SETTING AT 36 MONTHS WHICH WERE RELIABLY RELATED TO STANFORD-BINET PERFORMANCE AT 36 MONTHS

	Males (N = 18)		Females (N = 21)		Total (N = 39)	
	$\bar{X}$	S.D.	$\bar{X}$	S.D.	$\bar{X}$	S.D.
SITCAT item A9 Response to adult's suggestion: ignores adult	.33	.47	.71	1.28	.54	1.01
SITCAT item D1 Group play: vocalizes to other children or adults	1.17	1.80	1.38	2.59	1.28	2.26
SITCAT item G9 Solitary play: easily distracted	.33	.94	.43	.58	.38	.77

SUMMARY OF SIGNIFICANT CORRELATION COEFFICIENTS FOR HYPOTHESES III-1, III-2, III-3, III-4

Behavior observed in the small group setting at 36 months of age		Stanford-Binet performance at 36 months			
		Hy III-1 IQ	Hy III-2 Language factor	Hy III-3 Memory factor	Hy III-4 Perceptual-motor factor
Response to adult's suggestion: ignores adult	Males	.24	.38	-.08	.10
	Females	.36	.14	.22	.34
	Total	.32	.37*	.14	.19
Group play: vocalizes to other children or adults	Males	.28	.19	.01	.30
	Females	.34	.22	.25	.40
	Total	.31	.21	.17	.33*
Solitary play: easily distracted	Males	-.35	-.23	.02	-.44
	Females	-.57***	-.41	-.59***	-.31
	Total	-.37**	-.27	-.21	-.37**

*p < .05.
**p < .02.
***p < .01.

Appendix 2

Means and Standard Deviations on Stott Effectiveness Motivation Score, Test Performance and Behavior

	Total (N=62)		Male (N=27)		Female (N=35)	
	$\bar{X}$	SD	$\bar{X}$	SD	$\bar{X}$	SD
Stott Effectiveness Motivation Scale	21.53	10.30	20.89	9.81	22.03	10.63
Stanford-Binet	95.27	12.01	92.88	11.20	97.06	12.28
Binet Task Oriented	26.43	7.46	24.00	8.15	28.32	6.25
Bayley Mental Development Scale	85.01	16.21	84.62	20.43	85.37	11.34
Bayley Motor Development Scale	101.75	17.62	97.27	18.49	105.63	15.83
Bayley Task Oriented	25.48	5.47	25.32	6.10	26.62	4.86

Appendix 3
Home Learning Center

Institute for Development of Human Resources
College of Education
University of Florida
Gainesville, Florida 32601

Six Year Interview

MOTHER'S NAME_____ MOTHER NO._____

CHILD'S NAME_____ INTERVIEWED BY_____

PLACE OF INTERVIEW_____ DATE_____

1. Have you moved in the past year?

   Yes_____ No_____

2. About how many times have you moved?

   0. None
   1. One
   2. Two
   3. Three
   4. Four or more times

3. The latest move has been:

   1. to a better home
   2. to a poorer home
   3. to about the same kind of home
   4. to a public housing unit

4. The latest move has been from:

   1. renting to renting
   2. renting to owning
   3. owning to renting
   4. owning to owning
   5. moved in with relatives

5. How many people live in your home?_____

6. How many children did you have when you started with the project?_____

7. What is your current marital status?

   1. married_____
   2. single_____
   3. divorced_____
   4. remarried_____
   5. separated_____
   6. widowed_____
   7. deserted_____

8. What would you like your child to be when he grows up?_____

9. How much schooling do you expect your child to receive?_____

vfg

10. How well do you think he/she will do in school?_____

11. Have you gone back to school, taken any adult education courses or been in a vocational training program?_____If so, where?_____

_____

12. If you have gone back to school, what is your current educational endeavor?

1. Grade 1-6
2. Grade 6-12
3. Junior College
4. Four-year college degree

13. Have you changed your job status?

Yes_____ No_____

14. If yes, what is your current type of employment?_____

_____

15. Is your six year old child different in any ways from other children?

Yes_____ No_____

Explain:_____

_____

16. What things does he/she do better than other children?

_____

Worse?_____

17. How many children have you had since you started the project? _____

18. Does your six year old teach your other children/child things he learns in school? Yes_____ No_____

If so, what?_____

_____

19. In raising the younger children/child, did you do anything different with them? Yes_____ No_____ If so, what?_____

_____

20. Do your younger children/child attend a preschool? Yes_____ No_____

If so, how and why did you select this school?_____

_____

21. Is your child in the Florida Follow Through program? Yes_____ No_____

22. Have you ever talked to the teacher about him/her? Yes_____ No_____

If so, why?_____

_____

23. Do you take part in any of the preschool activities? Yes_____ No_____

If so, what do you do?_____

_____

24. Do you ever send your child on errands for you? Yes_____ No_____

If yes, explain:_____

If no, why not?_____

_____

25. Do you take your child shopping? Yes_____ No_____

26. Do you ever give your child money to buy something for himself?

Yes_____ No_____

00036

Page 2

AWARENESS OF CHILD'S DEVELOPMENT

1. At home did/does your child learn quickly to do anything?_____
If yes, what?_____

_____

Is your child good at anything?_____
If yes, what?_____

_____

Based on what your child can learn quickly, what would he be good at in school?_____

_____

2. At home did/does your child have trouble learning to do anything?_____
If yes, what?_____

_____

Are there things that your child is not so good at?_____ If yes, what?

_____

_____

Page 2

MARK ONLY ONE BOX WITH AN "X"

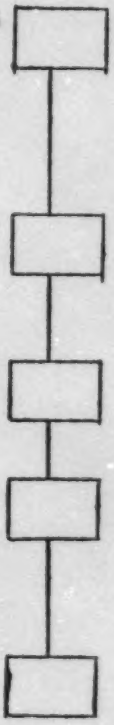
Mother understands that both the child's strengths and weaknesses can be related to his school behavior — 5

Mother understands that child's strengths may be related to school behavior but she does not see weaknesses are also related to school behavior — 4

Mother can see the child has both strengths and weaknesses — 3

Mother can see the child has strengths but no weaknesses, or weaknesses but no strengths — 2

Mother does not seem to be aware of any particular strengths or weaknesses in her child — 1



Page 3

REWARDS FOR INTELLECTUAL ATTAINMENT

1. When your child is showing you something at home, what do you do when he does something well?

_____

_____

_____

What do you do when he does something bad? _____

_____

_____

2. How do you punish him/her?

_____

_____

_____

What would you do if your child brought a good report card home?

_____

_____

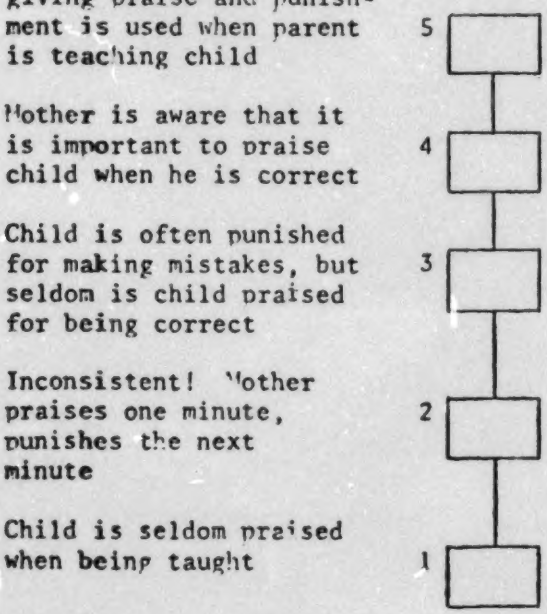
A bad report card?

_____

_____

Page 3

MARK ONLY ONE BOX WITH AN "X"


A clearcut system for giving praise and punishment is used when parent is teaching child
5
Mother is aware that it is important to praise child when he is correct
4
Child is often punished for making mistakes, but seldom is child praised for being correct
3
Inconsistent! Mother praises one minute, punishes the next minute
2
Child is seldom praised when being taught
1

Page 4

PRESS FOR LANGUAGE DEVELOPMENT

1. How well do you feel your child is learning to speak correctly?_____

Explain:_____

_____

_____

2. Do you have to help your child learn to speak correctly?

_____

If so, in what ways do you help him/her speak better?_____

_____

_____

Page 4

MARK ONLY ONE BOX WITH AN "X"

A great deal of attention is spent developing child's standard use of English	5	☐
A conscious effort is made to improve child's language	4	☐
Corrections in child's speech are sometimes made	3	☐
Mother is aware that language development is important in child but does little about it	2	☐
Mother pays little or no attention to the way child speaks	1	☐

AVAILABILITY AND USE OF SUPPLIES FOR LANGUAGE AND DEVELOPMENT

1. Do you get any newspapers or magazines?_____

If so, what are they?_____

_____

_____

2. Do you buy any books for your child?

_____. What was the last one you bought?_____

_____

3. Do you have a dictionary?_____

What kind?_____

_____

How often is it used?_____

_____

4. Do you buy any educational toys for your child?_____

What kind?_____

_____

Page 5

MARK ONLY ONE BOX WITH AN "X"

Dictionaries, books, children's books, newspapers and magazines are in the home	5 ☐
Books, children's books, newspapers and magazines are in the home	4 ☐
Children's books newspapers and magazines are in the home	3 ☐
Either newspapers or magazines are in the home	2 ☐
Neither newspapers nor magazines are in the home	1 ☐

Page 6

LEARNING OPPORTUNITIES OUTSIDE THE HOME

1. Do you ever get a chance to take a vacation?_____ If yes, do you go anywhere that might help your child to learn?_____ If yes, give example.

_____

_____

_____

2. Do you or your husband play with your child outdoors or anywhere outside the home?_____If yes, do you try to teach him/her anything when you are playing with him?_____

If yes, give example:_____

_____

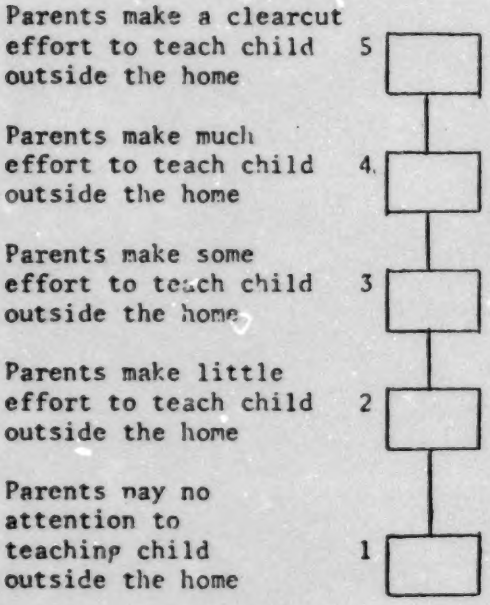
_____

_____

_____

Page 6

MARK ONLY ONE BOX WITH AN "X"


Parents make a clearcut effort to teach child outside the home
5
Parents make much effort to teach child outside the home
4
Parents make some effort to teach child outside the home
3
Parents make little effort to teach child outside the home
2
Parents pay no attention to teaching child outside the home
1

Page 7

MATERIALS FOR LEARNING IN THE HOME

1. Do you let your child operate any appliances, TV, toaster?

_____

If yes, which ones?_____

_____

_____

2. Has your child a place of his own to do his homework? _____

_____

If yes, where?_____

_____

_____

3. What kind of supplies are available for him to work with? (observe and place an X on appropriate lines)

Coloring books_____ Paste_____

Crayons_____ Paper_____

Paints_____ Ruler_____

Other (specify)_____

_____

_____

_____

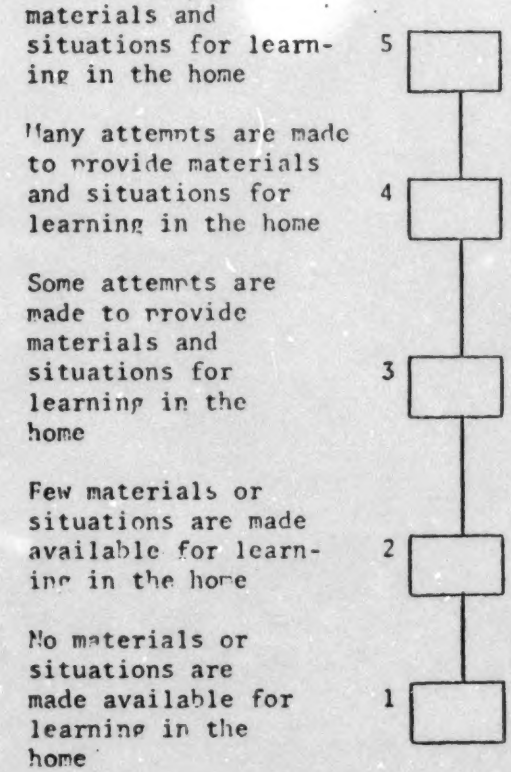
4. How do you decide what types of toys to buy?_____

_____

_____

Page 7

MARK ONLY ONE BOX WITH AN "X"


A systematic attempt is made to provide materials and situations for learning in the home
5
Many attempts are made to provide materials and situations for learning in the home
4
Some attempts are made to provide materials and situations for learning in the home
3
Few materials or situations are made available for learning in the home
2
No materials or situations are made available for learning in the home
1

Page 8

READING PRESS

1. Do you ever get anything to read for your child from the library?_____ If yes, why?

_____

_____

_____

2. Do you have your own library of books?_____

3. Have you bought any books or other reading materials for your child recently?_____ If so, what?

_____

_____

_____

4. Do you read to your child?_____
If so, why? _____

_____

_____

5. Does your child bring books home from school to read or study?_____

_____

Page 8

MARK ONLY ONE BOX WITH AN "X"

A systematic effort is made to use reading materials to teach child	5	☐
Library books and other reading materials are available and used to teach child	4	☐
A library book has been brought home	3	☐
Books are in the home - none from library	2	☐
Not much reading material in the home	1	☐

Appendix 4

Institute for Development of Human Resources
College of Education
University of Florida
Gainesville, Florida 32601

THE HOME ENVIRONMENT REVIEW

This questionnaire and rating schedule is designed to be administered and scored by parent educators. Information derived from this Home Environment Review (HER) may be used to determine what happens in a child's home which may affect the way the child learns at school. Tasks may be developed to change some of the conditions in the home which are reflected by this scale.

The HER has nine (9) sections, each of which is divided into two parts. Part one is a questionnaire and part two is a rating scale. The parent educator first asks the parent the questions and records the parent's answers in the home. Then upon leaving the home, the parent educator rates these responses from a low score of 1 to a high score of 5. Nine ratings are made.

The original answers given by parents are retained by the teacher and parent educator and are used as an aid in task development. The nine ratings are sent to the University of Florida.

August, 1972

00104

HOME ENVIRONMENT REVIEW (HER)

Parent's Name_____

Child's Name_____

Ask these questions of mothering one:

EXPECTATIONS FOR CHILD'S SCHOOLING

1. How much schooling do you expect your child will receive?

_____

_____

_____

2. How well do you think he/she will do in school?

_____

_____

_____

Page 1

HOME ENVIRONMENT REVIEW (HER)

Parent's Name_____

PEs Name_____

Teacher's Name_____

City_____ Date_____

Child's Name_____

MARK ONLY ONE BOX WITH AN "X"

Expects child to finish college	5	☐
Expects child to complete high school	4	☐
Expects child to finish elementary school	3	☐
Expects child to complete some elementary school	2	☐
Not much expectation for child to receive schooling	1	☐

Page 2

AWARENESS OF CHILD'S DEVELOPMENT

1. At home did/does your child learn quickly to do anything?_____If yes, what?_____

_____

Is your child good at anything?_____
If yes, what?_____

_____

Based on what your child can learn quickly, what would he be good at in school?

_____

_____

2. At home did/does your child have trouble learning to do anything?_____
If yes, what?_____

_____

Are there things that your child is not so good at?_____If yes, what?

_____

_____

Based on what your child found difficult to do at home, what subjects would you think he might find troublesome at school?

_____

_____

MARK ONLY ONE BOX WITH AN "X"

Mother understands that both the child's strengths and weaknesses can be related to his school behavior	5 ☐
Mother understands that child's strengths may be related to school behavior but she does not see weaknesses are also related to school behavior	4 ☐
Mother can see the child has both strengths and weaknesses	3 ☐
Mother can see the child has strengths but no weaknesses, or weaknesses but no strengths	2 ☐
Mother does not seem to be aware of any particular strengths or weaknesses in her child	1 ☐

REWARDS FOR INTELLECTUAL ATTAINMENT

1. While teaching your child when do you reward him/her and when do you punish him/her? _____

_____

_____

_____

2. How do you reward him/her?

_____

_____

_____

3. How do you punish him/her?

_____

_____

_____

4. If you were given a report card showing how your child worked at school, how would you use it?

_____

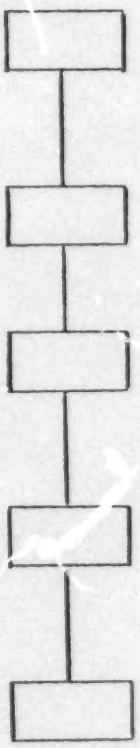
_____

_____

_____

Page 3

MARK ONLY ONE BOX WITH AN "X"


A clear cut system for giving rewards and punishment is used when parent is teaching child
5
Mother is aware that it is important to reward child when he is correct
4
Child is often punished for making mistakes, but seldom is child rewarded for being correct
3
Inconsistent! Mother rewards one minute, punishes the next minute
2
Child is seldom rewarded when being taught
1

Page 4

PRESS FOR LANGUAGE DEVELOPMENT

1. How well do you feel your child is learning to speak English?

_____

_____

_____

2. Do you find it necessary to help your child learn to speak better?

_____

_____

_____

If so, what ways do you help him/her speak better?

_____

_____

_____

_____

MARK ONLY ONE BOX WITH AN "X"

A great deal of attention is spent developing child's correct use of English	5	☐
A conscious effort is made to improve child's language	4	☐
Corrections in child's speech are sometimes made	3	☐
Mother is aware that language development is important in child but does little about it	2	☐
Mother pays little or no attention to the way child speaks	1	☐

AVAILABILITY AND USE OF SUPPLIES FOR LANGUAGE DEVELOPMENT

1. Do you get any newspapers or magazines?

_____

If so, what are they?_____

_____

_____

_____

2. Do you buy any books for your child?

_____What was the last one you bought?_____

_____

_____

3. Have you a dictionary?_____

What kind?_____

_____

Has your child a dictionary?_____

How often is it used?_____

_____

Page 5

MARK ONLY ONE BOX WITH AN "X"

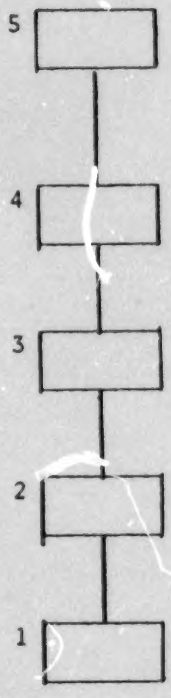
5 Dictionaries, books, children's books, newspapers, and magazines are in the home

4 Books, children's books, newspapers and magazines are in the home

3 Children's books, newspapers and magazines are in the home

2 Either newspapers or magazines are in the home

1 Neither newspapers nor magazines are in the home



Page 6

LEARNING OPPORTUNITIES OUTSIDE THE HOME

1. Do you ever get a chance to take a vacation?_____ If yes, do you go anywhere that might help your child to learn?_____ If yes, give example.

_____

_____

_____

2. Do you or your husband play with your child outdoors or anywhere outside the home?_____If yes, do you try to teach him/her anything when you are playing with him?_____

If yes, give example:_____

_____

_____

_____

_____

3. Have you ever felt that you have taught your child something while you were outside the home, in the store _____ church _____ car _____ or anywhere else _____.

If so, what? _____

_____

_____

How did you accomplish this teaching?

_____

_____

_____

MARK ONLY ONE BOX WITH AN "X"

Parents make a clearcut effort to teach child outside the home	5	☐
Parents make much effort to teach child outside the home	4	☐
Parents make some effort to teach child outside the home	3	☐
Parents make little effort to teach child outside the home	2	☐
Parents pay no attention to teaching child outside the home	1	☐

MATERIALS FOR LEARNING IN THE HOME

1. Do you let your child operate any appliances?_____If yes, which ones?

_____

_____

_____

How long have you allowed this?

_____

_____

What are your reasons for having your child operate or not operate appliances?

_____

_____

_____

2. Has your child a place of his own to do school work or play at doing school work?

_____

3. What kind of supplies are available for him to work with? (Observe and place X on appropriate lines)

Coloring books_____ Paste_____

Crayons_____ Paper_____

Paints_____ Ruler_____

Other (specify)_____

_____

_____

Page 7

MARK ONLY ONE BOX WITH AN "X"

5 A systematic attempt is made to provide materials and situations for learning in the home

4 Many attempts are made to provide materials and situations for learning in the home

3 Some attempts are made to provide materials and situations for learning in the home

2 Few materials or situations are made available for learning in the home

1 No materials or situations are made available for learning in the home

READING PRESS

1. Do you ever get anything to read for your child from the library?_____
If yes, why?_____

_____

_____

2. Do you have your own library of books?_____

3. Have you bought any books or other reading materials for your child recently?_____If so, what?

_____

_____

_____

4. Do you read to your child?_____

If so, why?_____

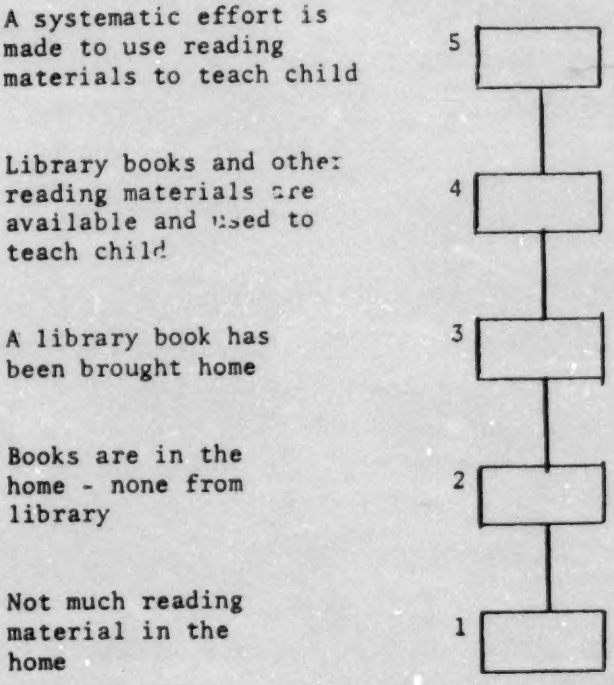
_____

_____

_____

Page 8

MARK ONLY ONE BOX WITH AN "X"


A systematic effort is made to use reading materials to teach child
5
Library books and other reading materials are available and used to teach child
4
A library book has been brought home
3
Books are in the home - none from library
2
Not much reading material in the home
1

TRUST IN SCHOOL

1. If a child begins school poorly do you think he could get a bad reputation?

Yes_____ No_____

2. Could a bad reputation which a child gets at first last all through school?

Yes_____ No_____

3. What can be done to prevent a child from getting a bad reputation in school?

_____

_____

_____

_____

_____

4. Is there any way that your child might not benefit from going to school?_____

_____

_____

_____

5. When it comes to treating your child fairly, how reasonable are the people who run the school?

_____

_____

_____

Page 9

MARK ONLY ONE BOX WITH AN "X"

A great deal of trust of school	5 ☐
More trust of school	4 ☐
Some trust of school	3 ☐
Little trust of school	2 ☐
No trust of school	1 ☐

October, 1970

Appendix 5

REPORT ON THE REFACTORING OF THE HISM[1]

Ira J. Gordon and Harris Jaffee

The original factor scores had been based on the high school version of the How I See Myself Scale, and we felt that with some of the items changed, and with adults as respondents, these scores might not be the most accurate and useful. Therefore, a refactoring of the revised HISM Scale for parents was performed on the data from 2,053 parents from the 1969-70 pretest administration.

All 40 items were correlated with each other, and various statistical operations were performed to group those items which related highest with each other. Four such groups, or factors, emerged.

Factor one was the most stable. It was named Interpersonal Adequacy[2] and consisted of the following test items:

2 I stay with things until I finish them.

4 I like to work with others.

12 Women like me a lot.

17 I like teachers very much.

18 I feel at ease, comfortable inside myself.

19 I like to try new things.

20 I can handle my feelings.

1 An interim report to Florida Parent Education Follow Through and Head Start Planned Variation personnel.

2 See Appendix for comparison with previous factors.

23 I like the way I look.

24 I want other women to like me.

32 Housework is very interesting.

33 I do a good job at housework.

38 I am happy with the way I am.

39 I read very well.

40 I learn new things easily.

With a few changes this factor is very similar to that extracted with childrens' scores.

The second factor appears to be a combination of the Teacher-School, the Physical Adequacy, and the factor which appeared for males only, Boys-Social, on the high school norms. It consists of the following:

8 People like me.

9 I've lots of energy.

16 I get along well with teachers.

21 I did well in school work.

22 I want men to like me.

25 I'm very healthy.

27 I write well.

29 I use my time well.

35 Men like me a lot.

37 I liked school.

This cluster of scores is not easily named. After insnection, it has been tentatively labeled Social-Male because of items 22 and 35. In this respect, it differs from the first factor.

Factor three is clear and stable. It is the Personal Appearance factor consisting of items:

7 My hair is nice looking.

14 My face is pretty (good-looking).

23 I like the way I look.

31 My skin is nice looking.

36 My clothes are nice.

38 I'm happy with the way I am (built).

Factor four is labeled Competence. The items which load on this factor are:

13 I'm very good at speaking before a group.

15 I'm very good in music.

21 I did well in school work.

27 I write well.

34 I'm smarter than most of the others.

39 I read very well.

This factor seems to reflect the parent's feelings of academic or intellectual ability, and combines items from the previously 11-male high school factor, Language Adequacy, and the general Academic Adequacy factor (items 21, 34, 39).

This factor structure seems to be sound on the face of it, and we are now going to score the 1969-70 HISP using these four factors. We will also score the 1970-71 data on these.

APPENDIX

TABLE OF COMPARISONS OF OLD AND NEW FACTORS

Test items are reported as column entries. An asterisk indicates that a new factor item corresponds to the same item number found in the old factor. A number in the new column means a replacement of an item.

INTERPERSONAL ADEQUACY		COMPETENCE		PHYSICAL APPEARANCE		SOCIAL-MALE	
OLD	NEW	OLD	NEW	OLD	NEW	OLD	NEW
		LANGUAGE ADEQUACY				TEACHER-SCHOOL	
2	*	13	*	2		8	*
4	*	21	*	7	*	16	*
6		32		11		17	
10		34	*	12		21	*
12	*	39	*	14	*	32	
17	*	40		23	*	37	*
18	*		15	31	*	PHYSICAL ADEQUACY	
19	*		27	36	*	9	*
20	*			38	*	10	
23	*					25	*
24	*					26	
30						BOYS-SOCIAL	
32	*					9	*
36						16	*
38	*					21	*
39	*					22	*
40	*					35	*
	33						29

00117

Appendix 6

Parent Educator Weekly Report
and
Mother Attitude Index

PARENT EDUCATOR WEEKLY HOME VISIT REPORT

Institute for Development of Human Resources

Home Learning Center Project

Gainesville, Florida

PARENT _____ CHILD _____

ADDRESS _____ Child's Sex_____ Race_____

Home Learning Center _____ Home Mother _____

HLC Director _____ Number _____

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
		Mother number			sex	race	Group code		Center Dir.No.	Month	date	Day	of visit	Yr.	Visit	number	Time in	minutes	

Col. 21. The visit was

761 <
1 - Successfully made; mother was at home.
2 - Mother was not at home, but visited with someone.
3 - No one was at home; visit not made.
4 - Someone was at home, but no visit made

If you answered (3) three or (4) four, STOP HERE! Now go to Col. 63 on the last page and finish the report. Skip items 22-62. It is not necessary to code zeros.

Col. 22. The mothering one

1 - was warm, receptive, cooperative
2 - worked with (tolerated) parent educator
3 - showed little concern
4 - made fun of parent educator's ideas
5 - was openly hostile to parent educator's ideas

Col. 23. The lesson was

1 - not delayed
2 - delayed due to care of children
3 - delayed due to housework
4 - delayed due to eating
5 - delayed due to talking with friends or relatives
6 - delayed due to getting dressed
7 - other _____

21	22	23

Col. 24. Today's visit was with

1 - a mother who normally cares for child most of the time
2 - a mother who does not normally care for the child
3 - someone else who normally cares for the child most of the time
4 - temporary babysitter--someone who does not normally care for the child most of the time

Col. 25. How much activity was in the room in which you presented the exercises?

1 - Nothing was going on besides the training _____
2 - Other activities were going on but did not attract the attention of the baby _____
3 - Other activities in the room often pulled the baby's attention away from the training _____
4 - There was such a great deal of activity in the room that it made it difficult to present the exercises _____

Col. 26. How many interruptions were there during the task training period?

1 - None
2 - one or two
3 - three or four
4 - more than four

Col. 27. What was the most frequent or longest interruption?

1 - There were no interruptions
2 - Mothering one had to care for another child
3 - An adult wanted something
4 - The phone rang
5 - Visitors came
6 - The child had to be fed
7 - The child went to sleep
8 - A distracting TV show
9 - Other _____

Col. 28. During the visit the mother was

1 - present all of the time
2 - present most of the time
3 - present part of the time
4 - not present

Col. 29. During the visit the father was

1 - present all of the time
2 - present most of the time
3 - present part of the time
4 - not present
5 - no father in this household

24	25	26	27	28	29

00120

Col. 30. During the visit the father was

1 - interested in the training and wanted to help
2 - interested but did not take an active part
3 - not interested but did not interrupt the training
4 - not interested and interrupted the training for something trivial
5 - openly hostile against the training and tried to disrupt and/or discredit it
6 - thought the training was foolish but did not bother it
7 - other
8 - not applicable (no father present)

Col. 31. How many adults were in the room during the visit?

1 - One	4 - four	7 - seven
2 - two	5 - five	8 - more than seven
3 - three	6 - six	9 - no adults present

Col. 32. How many children were in the room during the visit?

1 - one	4 - four	7 - seven
2 - two	5 - five	8 - more than seven
3 - three	6 - six	9 - no children present

Col. 33-35. Col. 36-38. Which two tasks were presented today? Place the series number in columns 33 and 34 and the exercise number in column 35. For example, if you worked with Series XII-4, this would be coded as 12-4

33	34	35	36	37	38
1	2	4	1	2	5
Series		Ex.	Series		Ex.

Do the same in columns 36, 37, and 38, if a second task was presented; if not, enter zeros.

Col. 39. How did the mothering one react to your instructions?

1 - Looked at you while you were talking. Asked questions; was attentive
2 - Did other things while you were showing her how to do the task (ex: straightened child's clothes, looked around the room, did housework), listened passively
3 - Walked out of the room while you were explaining things to her
4 - Refused to do task
5 - Laughed at and/or scoffed at instructions
6 - Embarrassed or shy in performing before parent educator
7 - Other

30	31	32	33	34	35	36	37	38	39
			Series		Ex.	Series		Ex.	

Col. 40. Mothering one's ability to repeat tasks:

1 - Could repeat tasks you had explained to her
2 - Could do part of the tasks by herself, but needed the trainer's help
3 - Could not repeat tasks you had explained to her
4 - Embarrassed or shy in performing before parent educator
5 - Refused to try the task

Col. 41-43. Which two tasks were presented on your last visit?
Col. 44-46. Place the series and exercise number in the proper columns as shown in Col. 33-35. If this week's visit had a repeated exercise, it should still be recorded here.

Col. 47. Mothering one feels that on last week's tasks the child was:

1 - highly interested and successful
2 - highly interested but could not handle materials
3 - mildly interested and successful
4 - mildly interested but could not handle materials
5 - little interested but could handle materials when urged to
6 - little interested but was not able to handle materials
7 - information not available

Col. 48. When the mothering one goes over last week's tasks with her child, she:

1 - doesn't know what she is doing
2 - knows what she is doing
3 - information not available

Col. 49. When the mothering one goes over last week's tasks with her child, she:

3E2 1 - gets discouraged if child doesn't do task the first time
2 - is satisfied even if child doesn't do well
3E1 3 - tries again even if child doesn't do well the first time
4 - tries until child can do it or child gives up
3E3 5 - continues task even after child does well
6 - did not go over last week's task

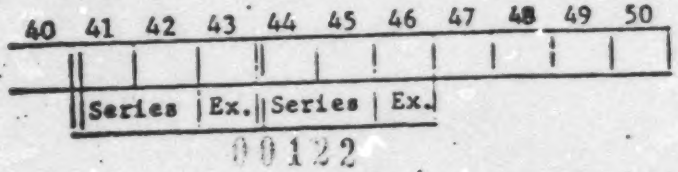
Col. 50. Did the mothering one say the child was sick?

1 - she said the child was sick
2 - she said the child was not sick
3 - she did not say whether the child was sick or not

If the mothering one said the child was sick, explain:

_____

_____



Col. 51. Did you think the child was sick?

1 - Yes _____ 2 - No _____

Explain if you have a different idea than the mothering one:

_____

_____

Col. 52. Community services information or child growth and development information was presented to the mothering one by the parent educator.

1 - Yes _____ 2 - No _____

Col. 53. Referral was made (You notified the nursing or other group to get help for the parent).

1 - Yes _____ 2 - No _____

Col. 54. Songs, nursery rhymes, toy making, rhythm games, or other enrichment materials were presented to the mothering one by the parent educator.

1 - Yes ____ 2 - No _____

The parent educator observed in the home:

Col. 55. Books 1 - Yes _____ 2 - No _____

Col. 56. Magazines 1 - Yes _____ 2 - No _____

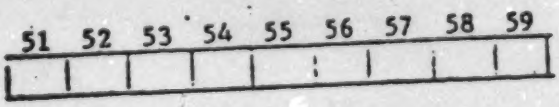
Col. 57. Educational toys 1 - Yes _____ 2 - No _____

Col. 58. How children present were treated by mothering one:

1 - holds, pats the child or siblings
2 - smiles, says kind words to the child or siblings
3 - listens to child, takes time to pay attention to things the child shows, compliments the child when he does something new, praises when the child performs.
4 - punishes verbally--scolds, ridicules
5 - punishes physically or removes the child

Col. 59. To what extent do people talk to the child?

1 - People other than the person working with the child talk to the child
2 - The person working with the child talks to the child
3 - The person working with the child talks to the child about things besides those things with which the child is working
4 - No one talks to the child
5 - The child was not present



Col. 60. When the mothering one gives an order to any of the children present, she:

1 - requests child to do something, giving reason
2 - requests child to do something, giving no reason
3 - requests child to do something, with threat
4 - orders child to do something, giving reason
5 - orders child to do something, giving no reason
6 - orders child to do something, with threat
7 - not applicable (no orders given; no children present; etc.)

Col. 61. If the child makes gestures and/or sounds (not words) to show that he wants something or wants to do something, the mothering one typically

1 - Responds by doing something for child
2 - Responds with words
3 - Ignores child
4 - Scolds or criticizes child for not asking clearly
5 - Pushes child away, etc.
6 - No request was made

Col. 62. When the child asks a question, the mothering one typically

1 - Gives child a long, detailed, involved answer
2 - Gives child a short but complete, good answer
3 - Gives child a "get out of my hair" answer
4 - Ignores or "brushes off" child
5 - Child did not ask a question

Write 2 sentences used by mothering one while talking to child.

_____

_____

_____

_____

60	61	62

Questions Relating to Home Learning Center

Col. 63. When you stopped to pick up child for last week's first H.L.C. Session, (Thursday or Friday)which of the following best describes what happened:

1 - Child was ready, dressed and fed breakfast or lunch
2 - Child was dressed but not fed; mother sent child to H.L.C. without breakfast or lunch.
3 - Mother was doing something else but stopped to get child ready, dressed and fed him.
4 - Mother was doing something else but stopped to get child dressed but not fed; mother sent child to H.L.C. without breakfast or lunch
5 - Mother did not stop doing something else, but allowed the P.E. to dress and feed child
6 - Mother did not stop doing something else, but allowed the P.E. to dress child but did not feed child (possibly no food)
7 - Child was not ready to go to H.L.C. and mother would not cooperate in getting child ready, so child missed that session
8 - Child was not able to attend this session because of some good reason (the baby was sick; did not have clothes; trouble in the family; out of town, etc.)
9 - The child did not attend this session because no one was at home, mother would not answer the door, or some other poor excuse.
0 - P.E. did not stop because the mother had told her ahead of time that the child would not be able to attend this session.

Col. 64. Which of the above sentences best describes what happened when you stopped to pick up the child for the second H.L.C. Session, (Monday or Tuesday).

1 - 0 Same as Col. 63.

Col. 65. Did the mothering one start asking questions about child's progress at the H.L.C., or did she start making comments about child's related activities at home? (Before you said anything about child's progress).

1 - YES _____ 2 - NO _____

Col. 66. Did you start talking to the mothering one about child's progress and activities at the H.L.C.?

1 - YES _____ 2 - NO _____

Col. 67. Did the mothering one ask questions or make comments about child's progress after you started talking about it?

1 - YES _____ 2 - NO _____

63 64 65 66 67 68

Col. 68. If the Home Visit was not made this week, give the reason below:

CODE FOR REASON VISIT NOT MADE:

0 - Mother Not Home

1 - Baby Ill

2 - Baby Being Tested

3 - Mother Ill

4 - Trainer Could Not Locate House

5 - Mother Too Busy

6 - Trainer's Car Broke Down

7 - Trainer Ill

8 - Trainer on Vacation

9 - Other _____

_____

Computation of Tallies:

Column 39
If item 39 is scored 1 tally 1 positive, otherwise

if item 39 is scored 3 tally 1 negative, otherwise

if item 39 is scored 2 and item 40 is scored 1 or 2

tally 1 positive, otherwise

if item 39 is scored 2 with item 40 scored 3, but item 26

is scored 2 and item 27 is not scored 7 tally 1 positive,

otherwise tally 1 negative. (omits choice 6 and 7)

Column 40

If item 40 is scored 1 or 2 tally 1 positive, otherwise

if item 40 is scored 3 or 5 tally 1 negative. (omit choice 4)

Column 48

If item 48 is scored 2 tally 1 positive, otherwise if

item 48 is scored 1 tally 1 negative. (omit choice 3)

Column 49

If item 49 is scored 3 or 5 tally 1 positive, otherwise

if item 49 is scored 1 or 2 tally 1 negative. (omit choice 4 and 6)

Column 21

If item 21 is scored 1 or 2 tally 1 positive, otherwise

if item 21 is scored 3 or 4 tally 1 negative.

Column 22

If item 22 is scored 1 or 2 tally 1 positive, otherwise

if item 22 is scored 4 or 5 tally 1 negative. (omit choice 3)

Column 63

If item 63 is scored 1,3, or 4 tally 1 positive, otherwise

if item 63 is scored 7 tally 1 negative. (omit other choices)

Column 64

Same as column 63.

Equation for computing Mother Attitude Index

$$\frac{\text{(Positive tally - Negative tally)}}{8 \times \text{Number of visits}}$$

Appendix 7

Publications

Gordon, I. J. What Do We Know About Parents as Teachers? (Guest Editor) Theory Into Practice. Columbus, Ohio: College of Education, The Ohio State University, June 1972, 11(3), 145-149.

Gordon, I. J. On Early Learning: The Modifiability of Human Potential. Associate for Supervision and Curriculum Development, NEA, 1201 Sixteenth Street N.W., Washington, D.C., 1971. Adaptation reprinted in The Disabled Learner, Paul Satz & John Ross (Eds.), Rotterdam University Press, 1973, pp. 3-27.

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